



**US Army Corps
of Engineers**
Fort Worth District

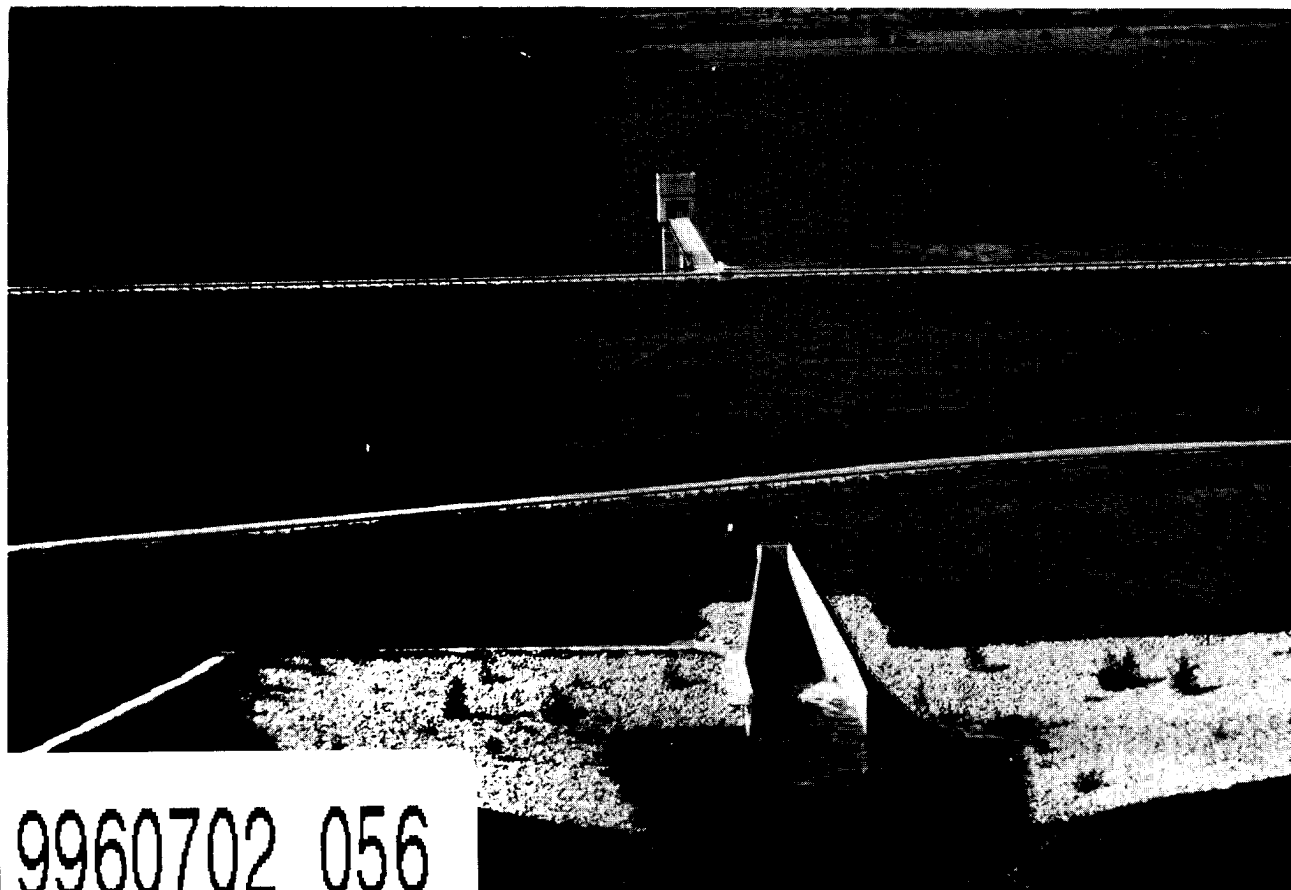
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Aquilla Lake Final Foundation Report

**Embankment, Spillway and
Outlet Works**

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19960702 056

Volume II

REVISED

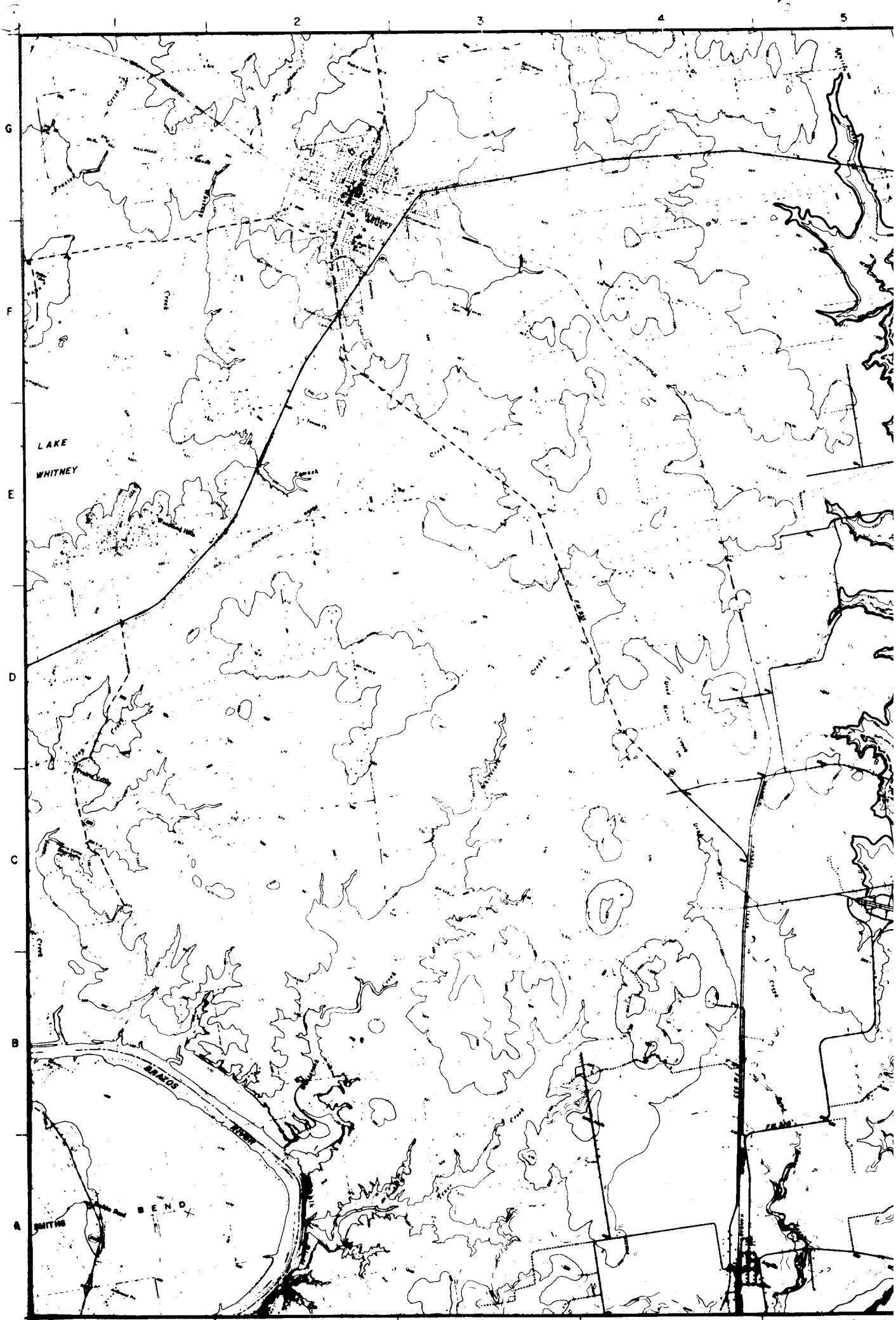
March 1996

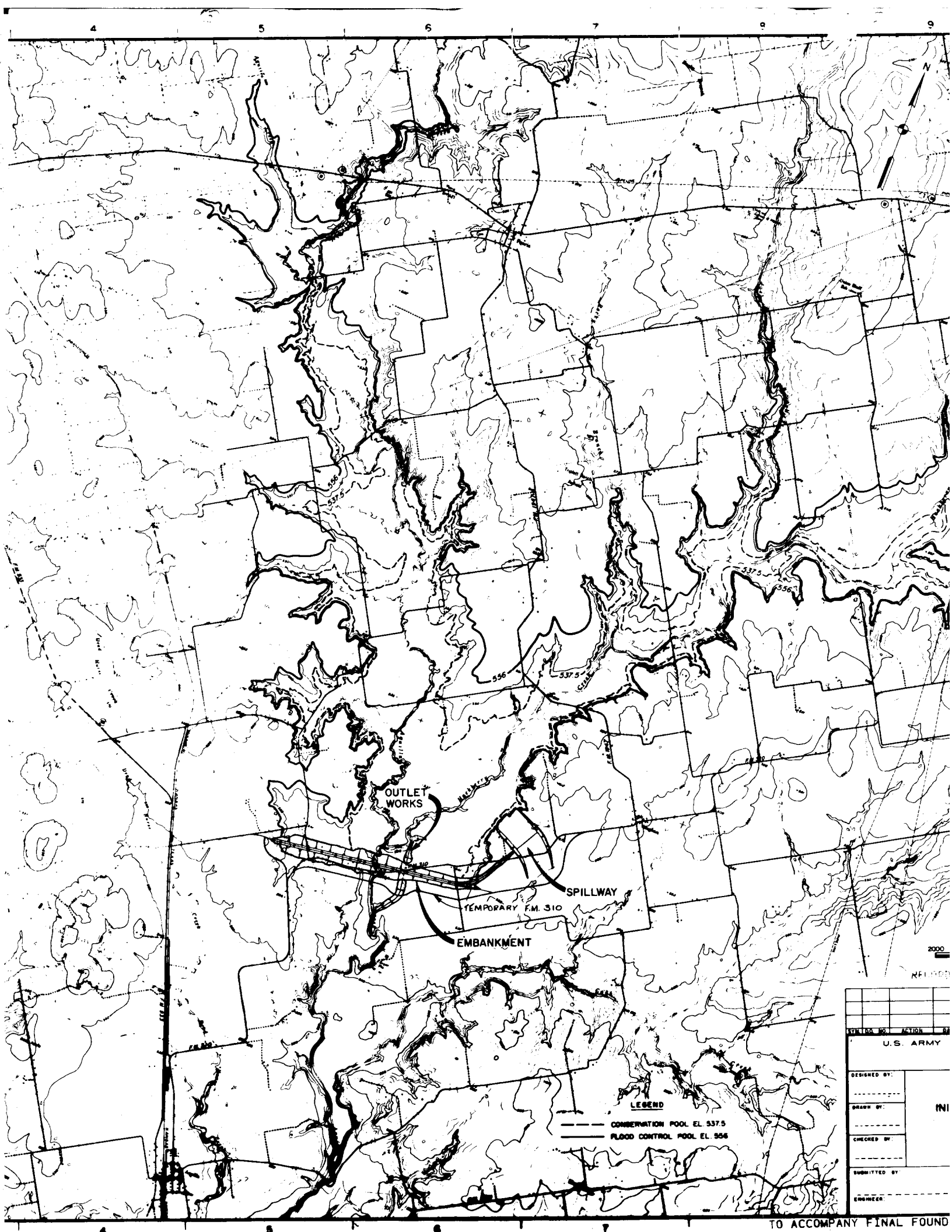
November 1987

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OUTLET
WORKS

SPILLWAY

TEMPORARY F.M. 310

EMBANKMENT

LEGEND

- CONSERVATION POOL EL. 537.5
- FLOOD CONTROL POOL EL. 556

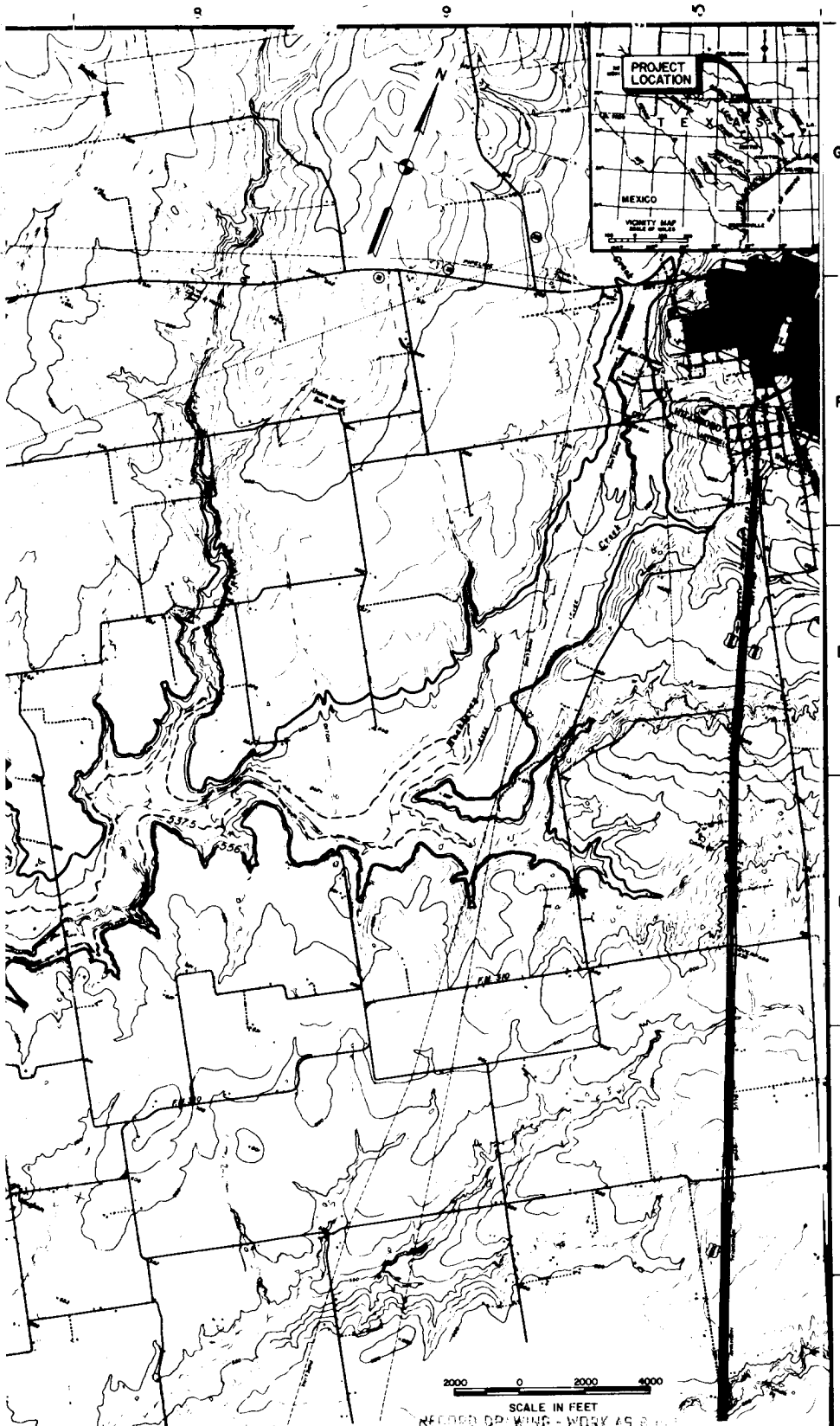
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

U.S. ARMY

REVISION NO. ACTION

2000

REF 1000



LEGEND
INFLATION POOL EL. 337.5
CONTROL POOL EL. 336

SERIAL NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
SUBMITTED BY: _____

**AQUILLA LAKE
AQUILLA CREEK, TEXAS
INITIAL EMBANKMENT, PARTIAL SPILLWAY
EXCAVATION, AND OUTLET WORKS**

LAKE MAP

ENGINEER: _____

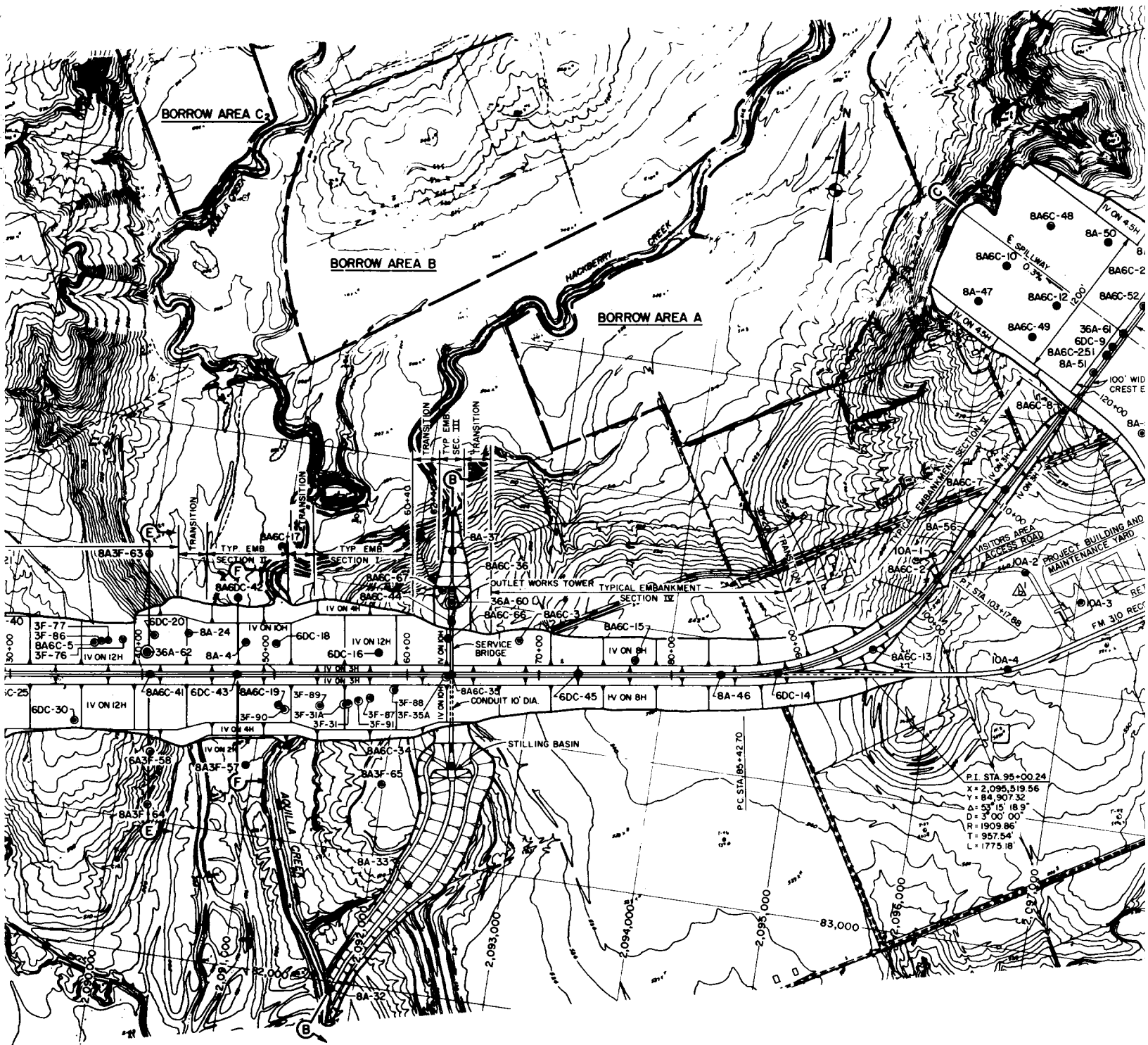
INV. NO. DACH6-115-0042 DATED: MAY 1978
CONTR. NO. WATWAY 78-C-0106
DRAWING NUMBER _____ SHEET NO. 3

**LEGEND****SYMBOLS**

- CORE, AUGER AND FISHTAIL BORINGS
- ⊙ LARGE DIAMETER AUGER BORINGS (INSPECTION)

BORING DESIGNATIONS:

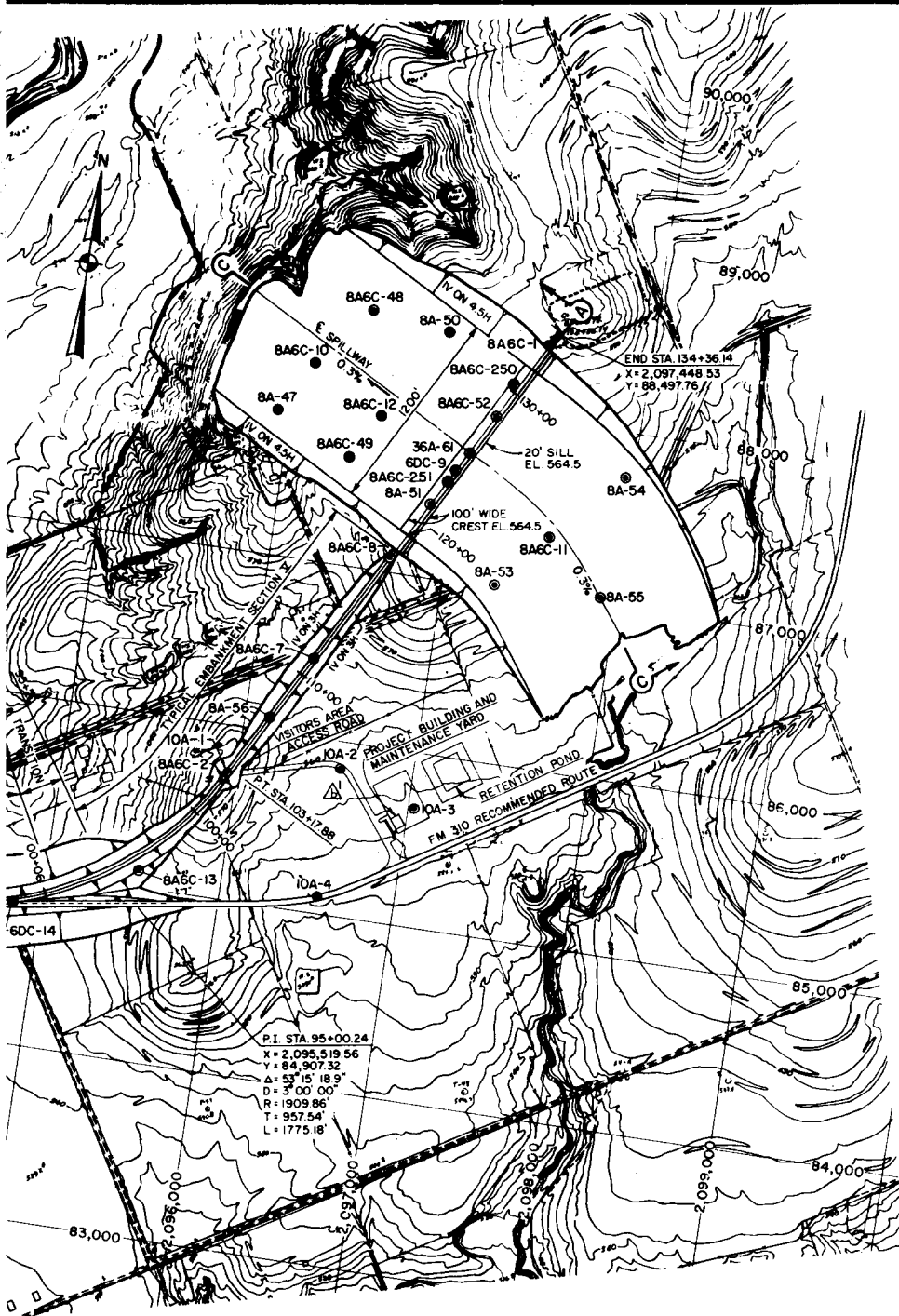
- | | |
|---------------|--------------------------------|
| BA6C-00 | 8 INCH AUGER AND 6 INCH CORE |
| 6DC-00 | 6 INCH DENISON AND 6 INCH CORE |
| BA-00, 36A-00 | 8 INCH AUGER, 36 INCH AUGER |
| 3F-00 | 3 1/8 INCH FISHTAIL OR ROCKBIT |



BORING LAYOUT

400 0 400 800

SCALE OF FEET



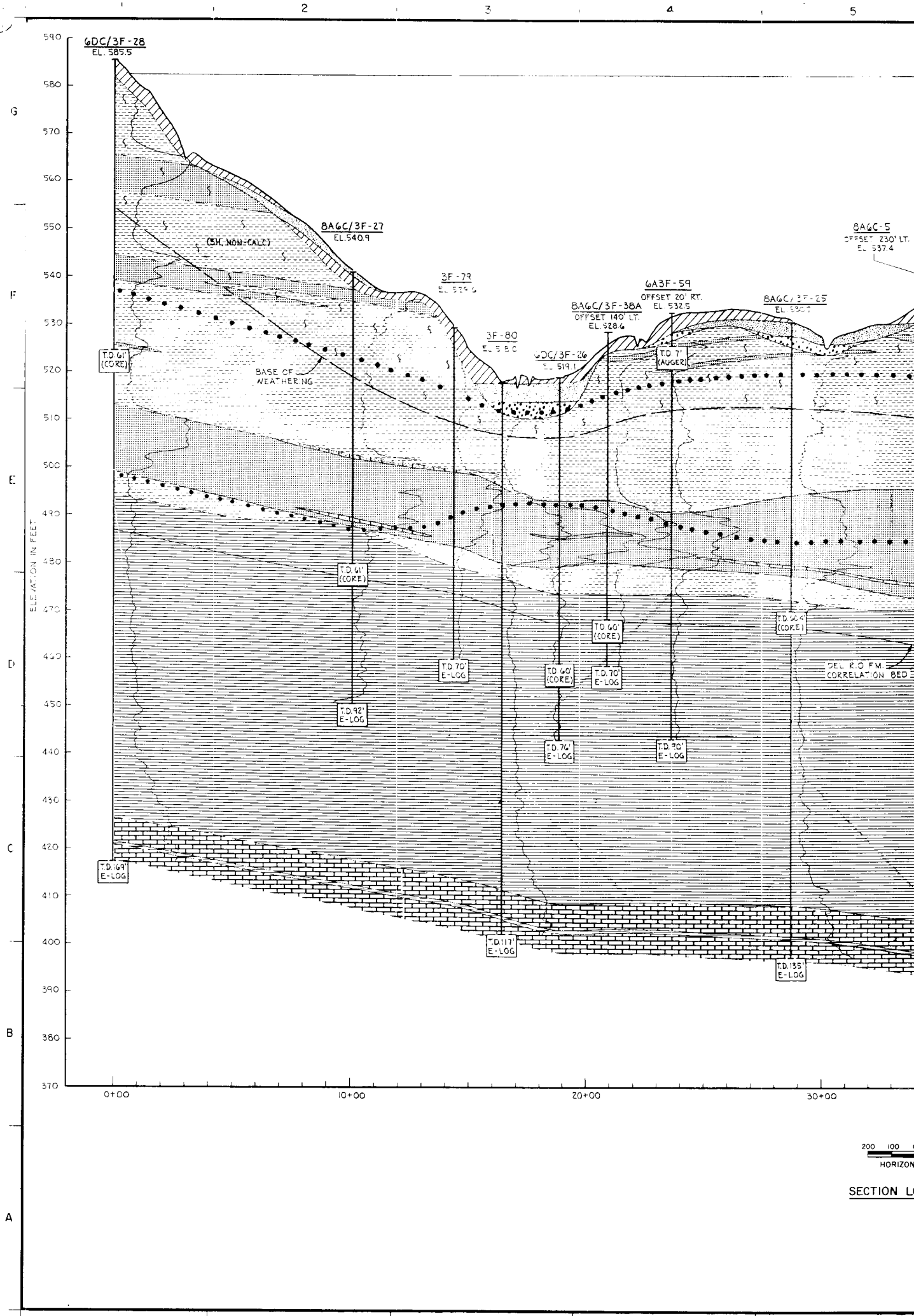
RECORD DRAWING-WORK AS BUILT

EMBANKMENT SECTION A-A, SEE SEQ. 75 AND 81
 EMBANKMENT WORKS SECTION B-B, SEE SEQ. 82
 EMBANKMENT SECTION C-C, SEE SEQ. 83
 EMBANKMENT ON STATION 19+10 D-D, SEE SEQ. 84 & 85
 EMBANKMENT ON STATION 40+60 E-E, SEE SEQ. 86
 EMBANKMENT ON STATION 47+20 F-F, SEE SEQ. 87

DESIGNED BY:		AQUILLA LAKE AQUILLA CREEK, TEXAS	
DRAWN BY:		COMPLETION OF EMBANKMENT AND SPILLWAY AND CONSTRUCTION OF SERVICE BRIDGE, ACCESS ROADS, PROJECT BUILDING, VISITORS OVERLOOK, F.M. 310 AND OTHER APPURTENANCES	
CHECKED BY:		BORING LAYOUT	
SUBMITTED BY:		INV. NO. DACW63-80-B-0085 DATED: AUG. 1980	
ENGINEER:		CONTR. NO. DACW63-B1-C-0035	
		DRAWING NUMBER	SHEET NO. 102

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 2



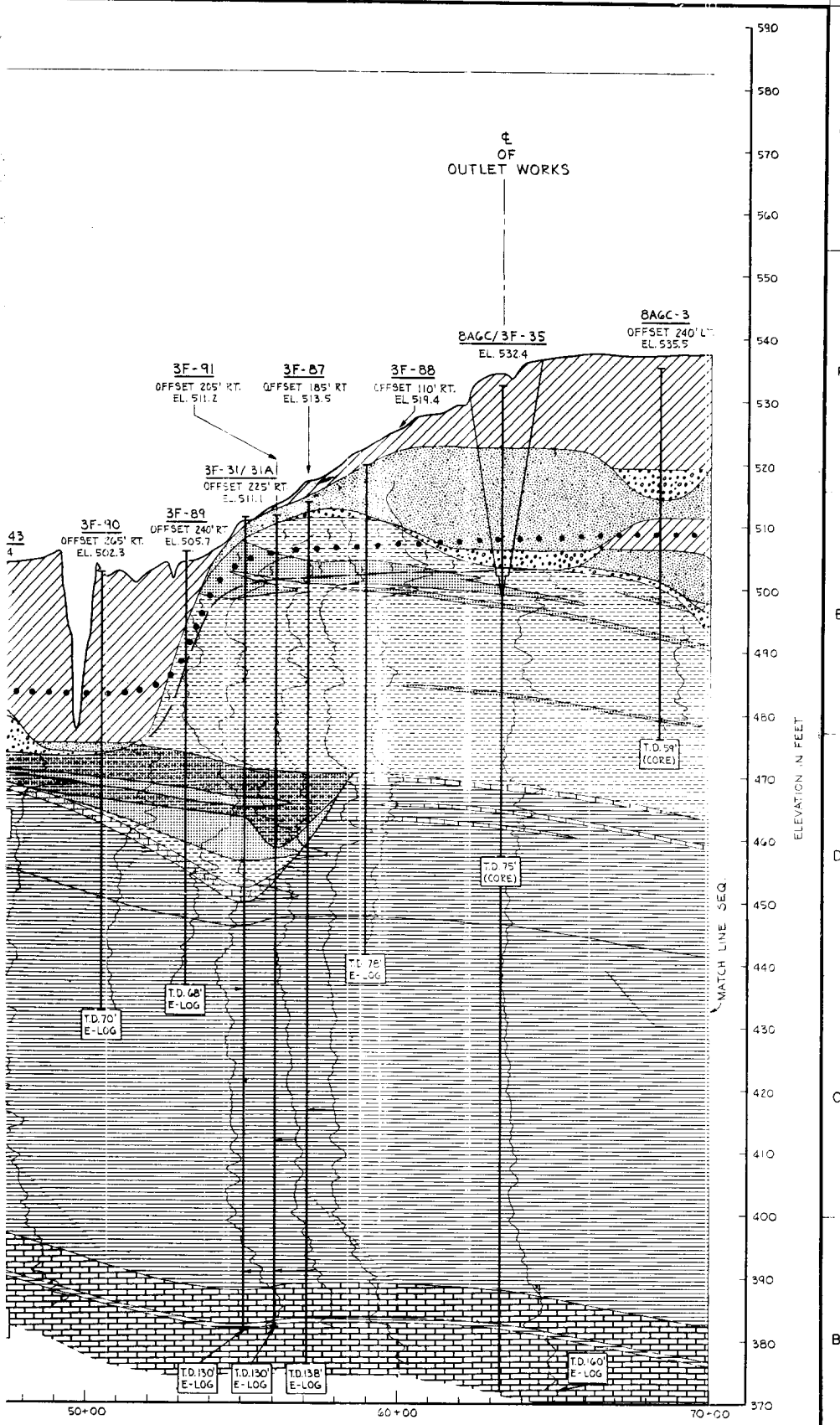
200 100 0
HORIZON

SECTION LC

8.

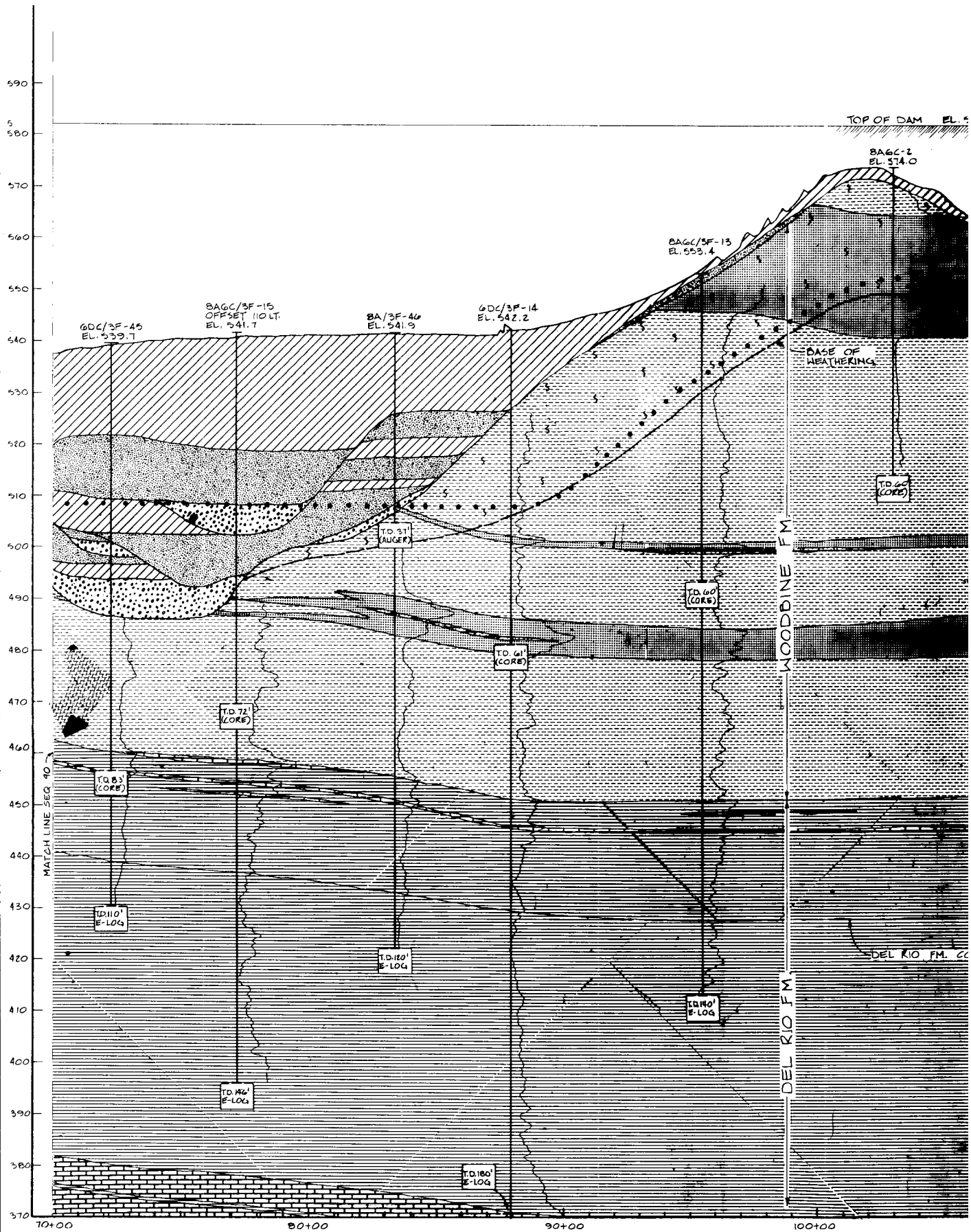

$$60 + 00$$

TO ACCOMPANY FINAL FO

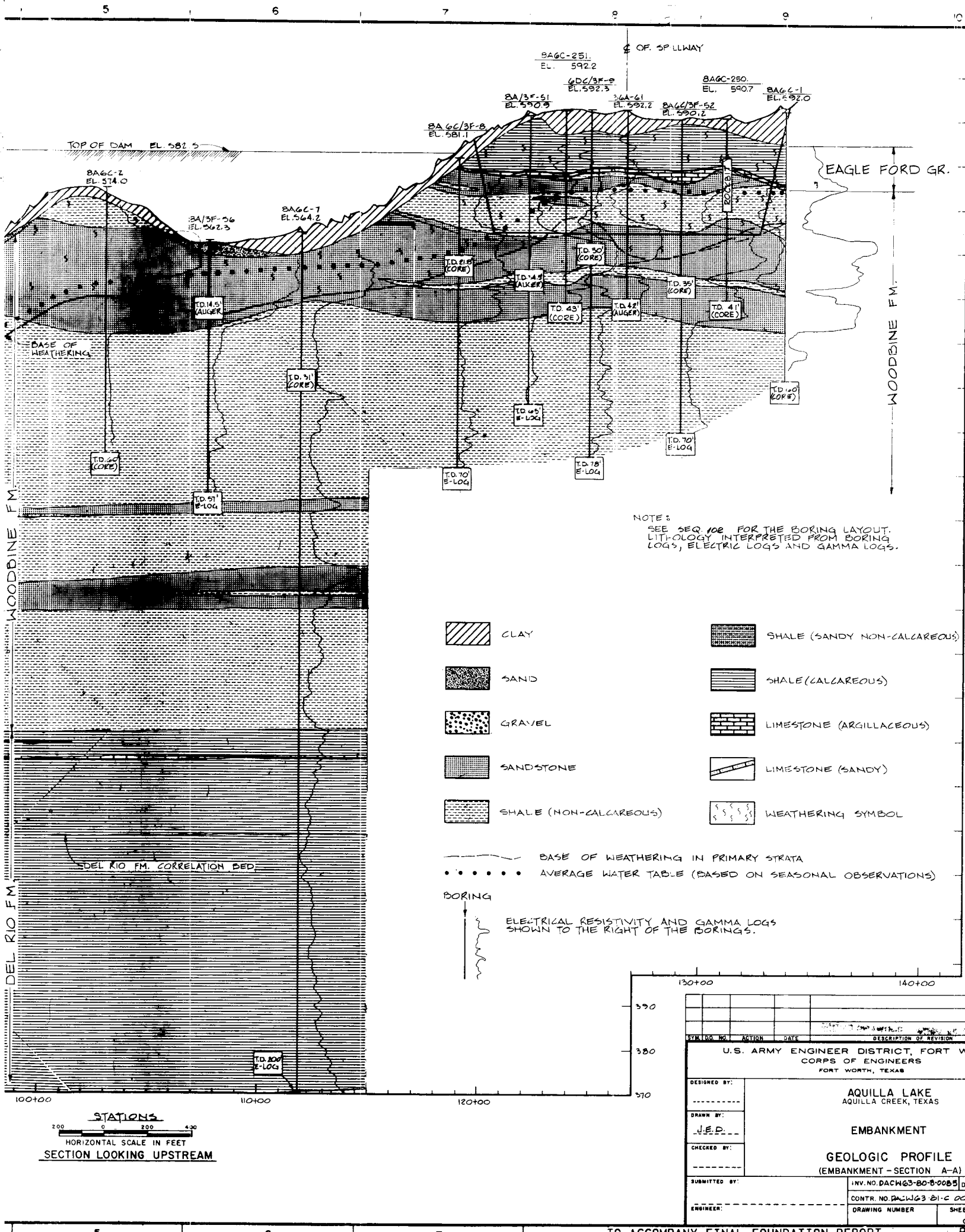


U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	M.B.P.		
CHECKED BY:	EMBANKMENT		
GEOLOGIC PROFILE (EMBANKMENT - SECTION A-A)			
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED:	AUG. 1980
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SEQUENCE NO.	103
DRAWING NUMBER		SHEET NO.	OF

G
F
E
D
C
B
A

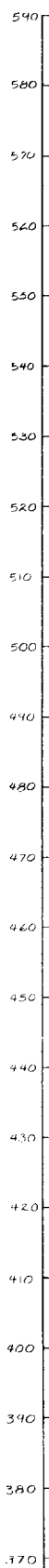


STATIONS
200 0 200
HORIZONTAL SCALE IN
SECTION LOOKING UP



G
F
E
D
C
B
A

ELEVATION IN FEET M.S.L.



WOODBRINE FM.
DEL RIO FM.

HACKBERRY CREEK

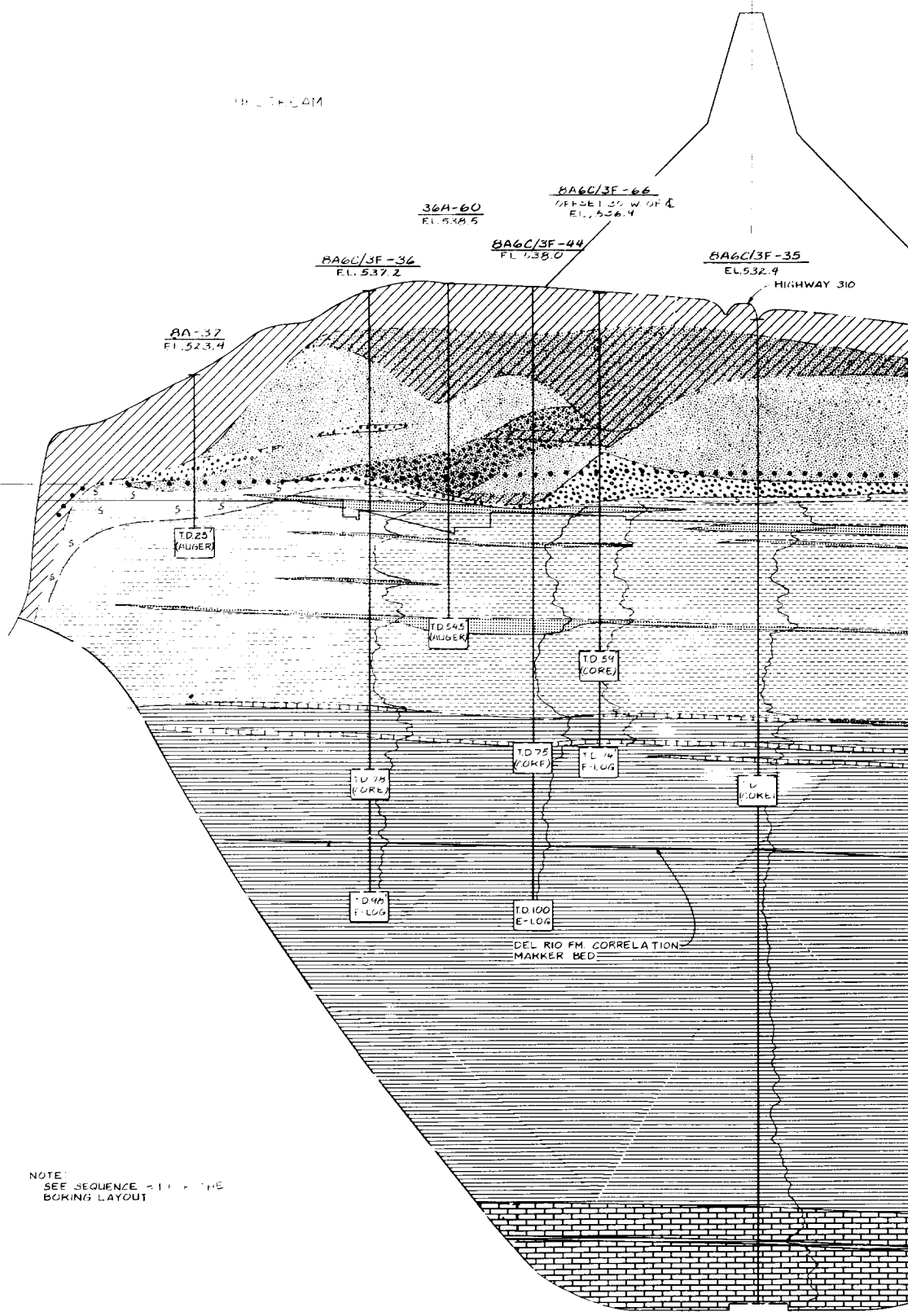
NOTE:
SEE SEQUENCE 511 & THE
BORING LAYOUT

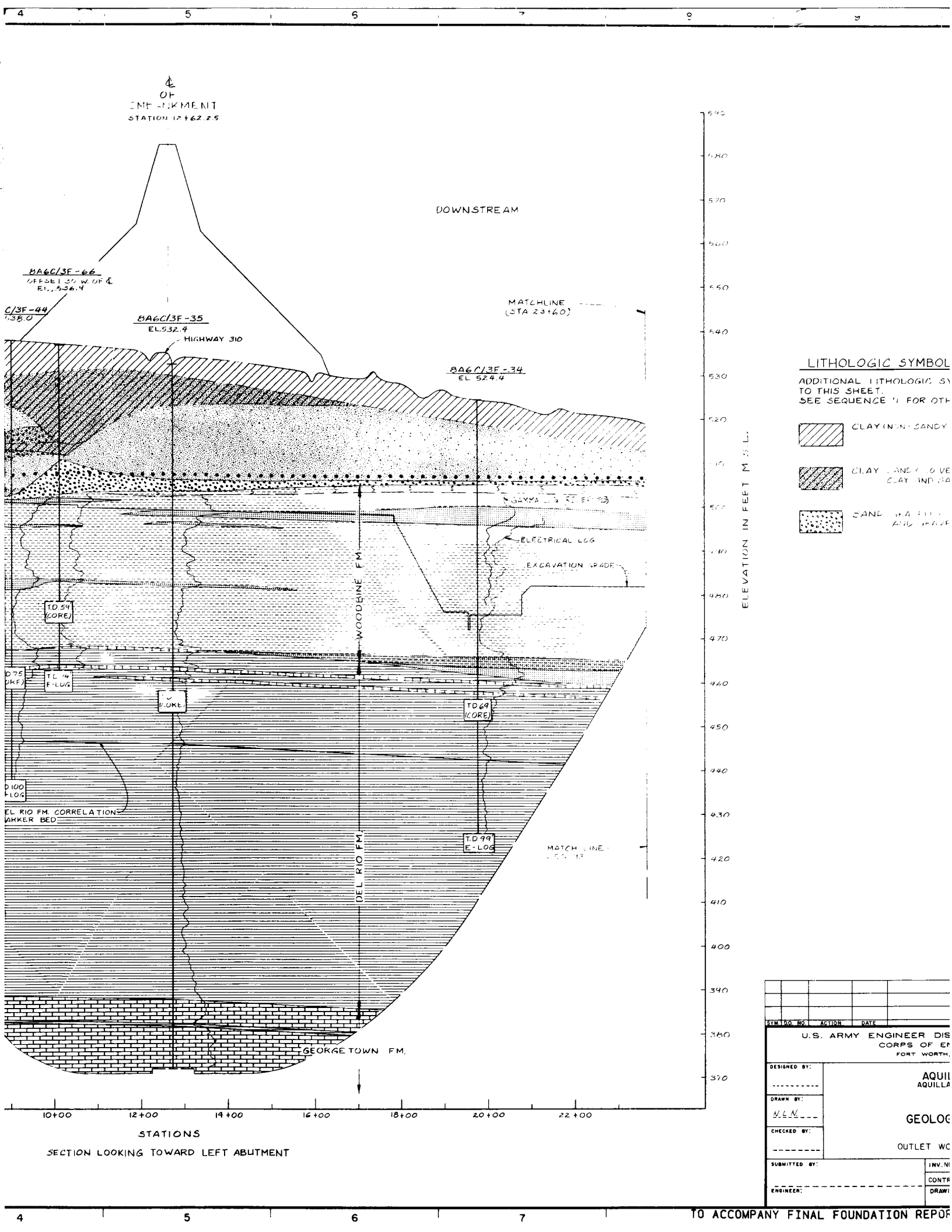
0+00 2+00 4+00 16+00 18+00 10+00 12+00 14+00

STATIONS

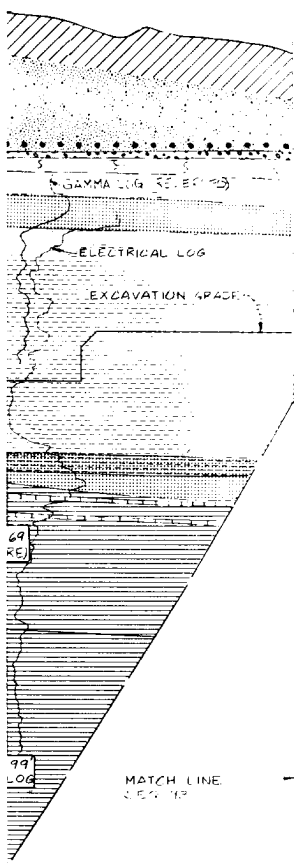
SECTION LOOKING TOWARD LEFT ABUTMENT

OF
IMPERIMENT
STATION 12+62.25





TREAM

MATCHLINE
(STA 23+60)V3F-34
524.4LITHOLOGIC SYMBOLS:

ADDITIONAL LITHOLOGIC SYMBOLS APPLICABLE
TO THIS SHEET.
SEE SEQUENCE 11 FOR OTHER SYMBOLS USED



CLAY (NON-SANDY TO SLIGHTLY SANDY)

CLAY (SANDY TO VERY SANDY OR INTERBEDDED
CLAY AND SAND)SAND (GRAVELLY OR INTERBEDDED SAND
AND GRAVEL)

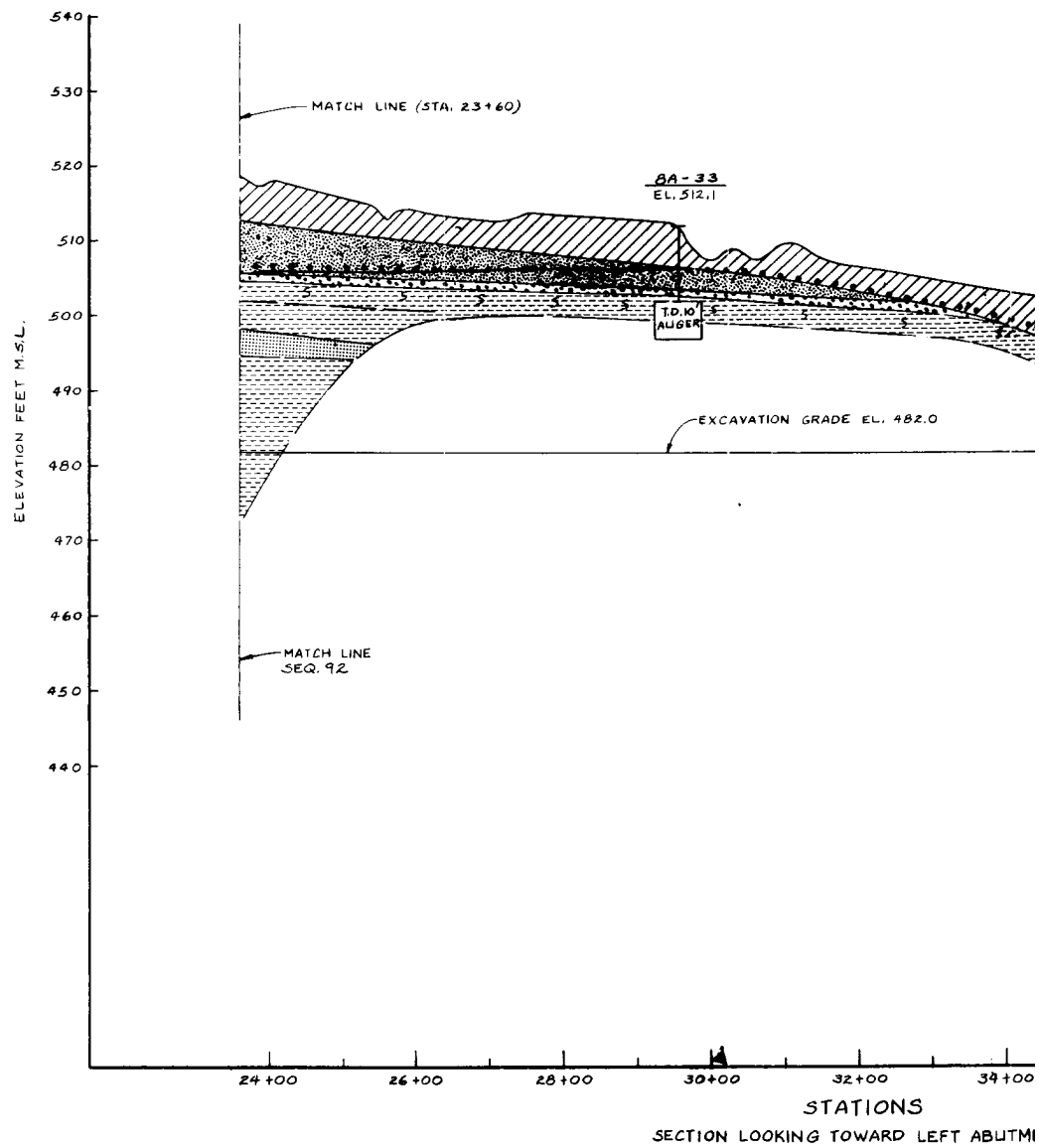
ELEVATION IN FEET M.S.L.

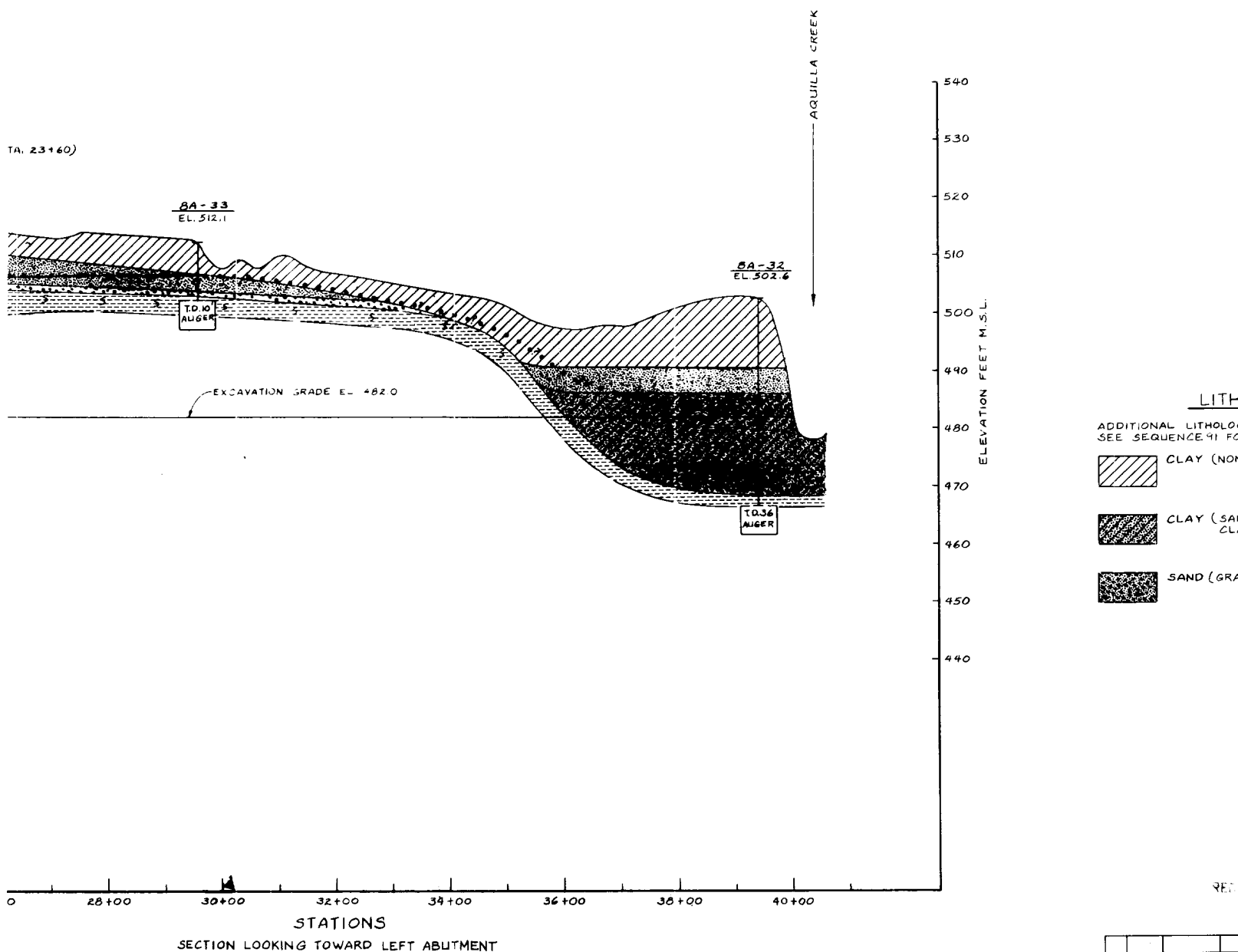
0+00 22+00

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	N. L. N.		
CHECKED BY:	GEOLOGIC PROFILE		
SUBMITTED BY:	OUTLET WORKS SECTION B-B		
ENGINEER:	INV. NO. DACKW 3-75-1-0248	DATED: MARCH 1975	CONTR. NO. 163
	DRAWING NUMBER	SHEET NO. 92	SEQUENCE NO. 92

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 5





NOTE:
SEE SEQUENCE 89 FOR THE BORING LAYOUT

DESIGNED BY:	
DRAWN BY:	N.L.M.
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

AQUILLA CREEK



100

FOR THE BORING LAYOUT

540
530
520
510
500
490
480
470
460
450
440

ELEVATION FEET M.S.L.

LITHOLOGIC SYMBOLS

ADDITIONAL LITHOLOGIC SYMBOLS APPLICABLE TO THIS SHEET
SEE SEQUENCE 91 FOR OTHER SYMBOLS USED.



CLAY (NON-SANDY TO SLIGHTLY SANDY).



CLAY (SANDY TO VERY SANDY, OR INTERBEDDED
CLAY AND SAND).



SAND (GRAVELLY OR INTERBEDDED SAND AND GRAVEL).

RECEIVED AND BUILT

SYMBOL NO.		ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	GEOLOGIC PROFILE			
CHECKED BY:	OUTLET WORKS SECTION B-B			
SUBMITTED BY:	INV. NO. DACW 63-78-5-0042		DATED: MARCH, 1979	
ENGINEER:	CONTR. NO. ACW 63-78-5-0042		SEQUENCE NO.	
	DRAWING NUMBER		SHEET NO. 93	
			OF	

G

F

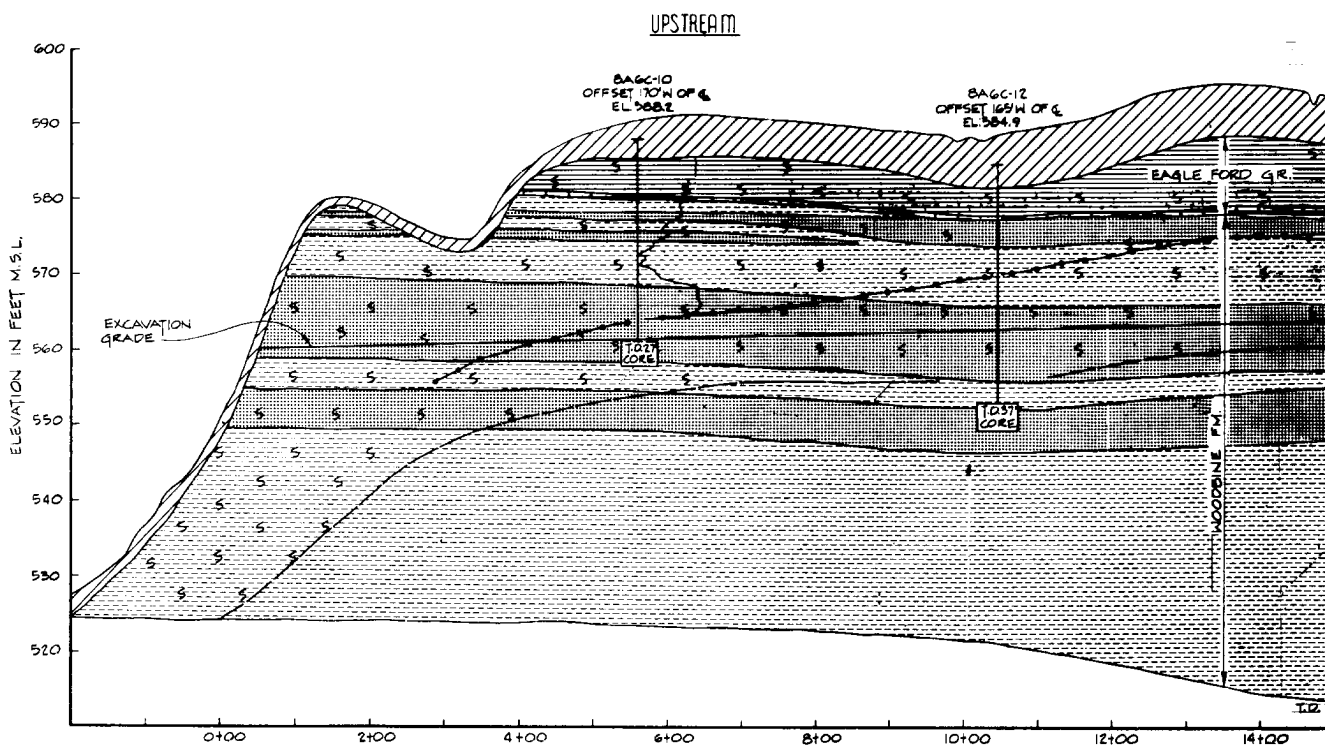
E

D

C

B

A

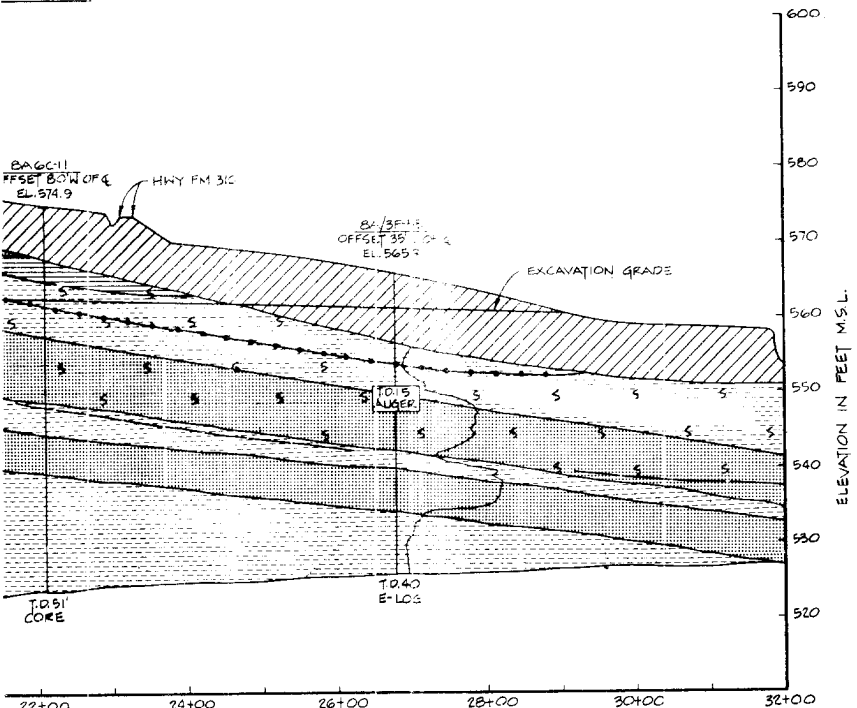


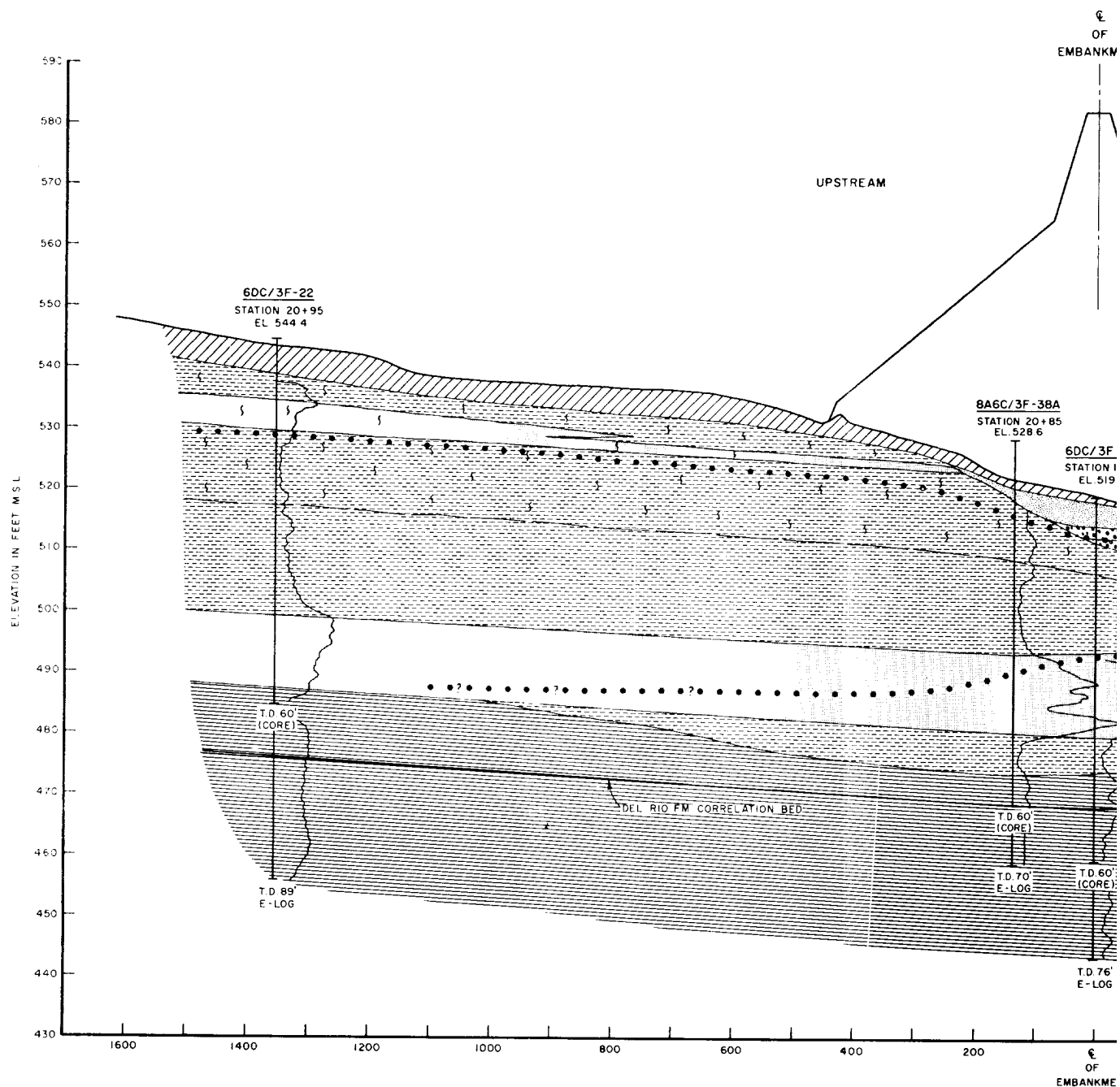
- NOTES:
1. THICKNESS OF OVERBURDEN PENETRATED BY OFFSET BORINGS BAGC-10 AND BAGC-12 IS ADJUSTED TO THE GROUND SURFACE IN THE LINE OF SECTION.
 2. SEE SEQ. 102 FOR THE BORING LAYOUT AND SEQ. 104 FOR LITHOLOGIC SYMBOLS.

SECTION LOOKING 1

200 0

HORIZ

[illegible]



NOTES:

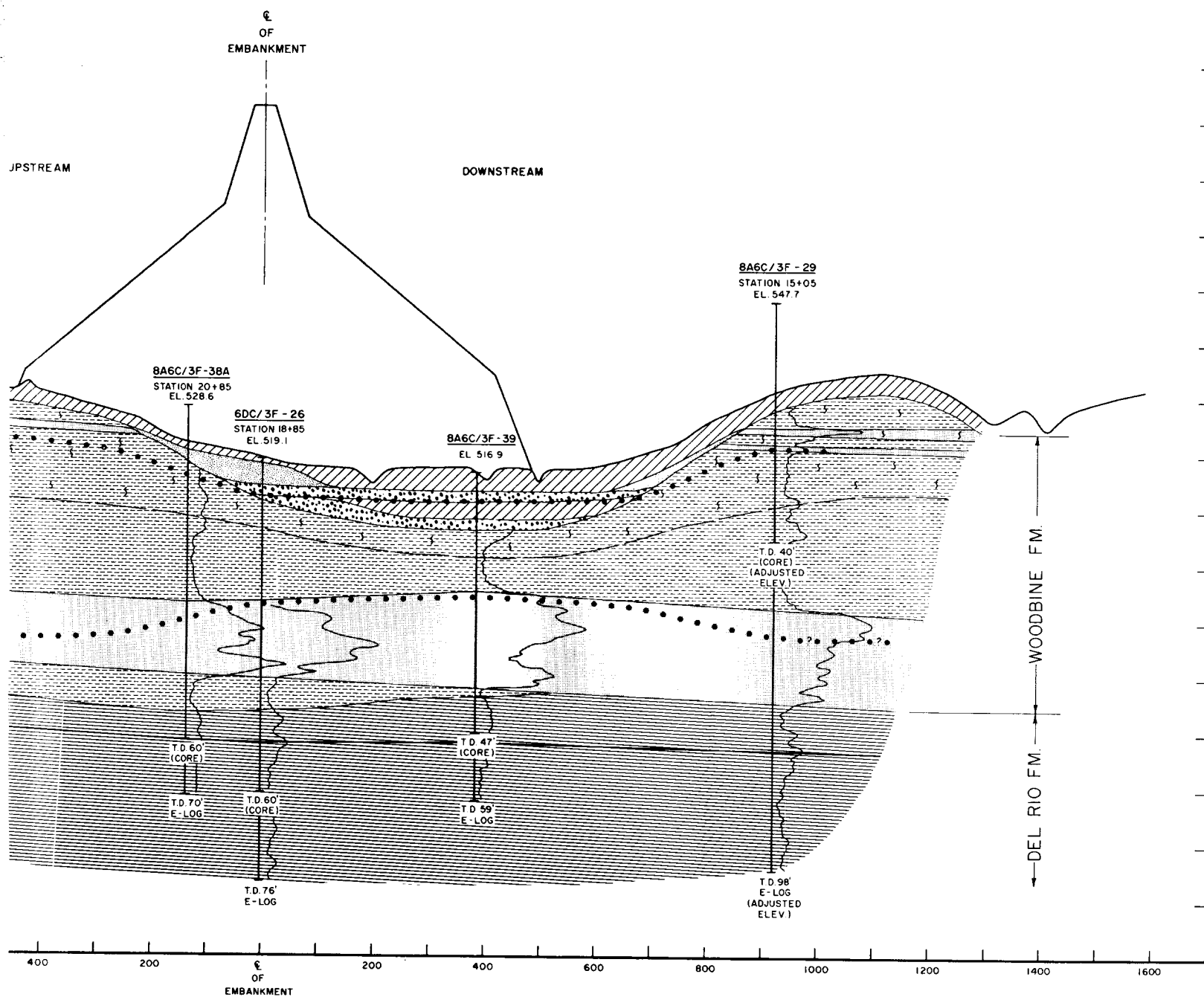
- (1) PRIMARY STRATA SHOWN AT BORING 8A6C/3F-29 ARE DISPLACED DOWNWARD 3 FEET FROM THEIR ELEVATION IN THE BORING AS COMPENSATION FOR FORMATIONAL DIP. OVERBURDEN THICKNESS, AS SHOWN AT THIS BORING, IS ESTIMATED.
- (2) PRIMARY STRATA IN BORING 6DC 3F-22 AND 8A6C 3F-38A ARE AT APPROXIMATELY THE SAME ELEVATION IN THE LINE OF SECTION.
- (3) SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.

DISTANCE FROM EMBANKMENT
IN FEET



HORIZONTAL SCALE

SECTION LOOKING TOWARD



DISTANCE FROM EMBANKMENT CENTERLINE
IN FEET

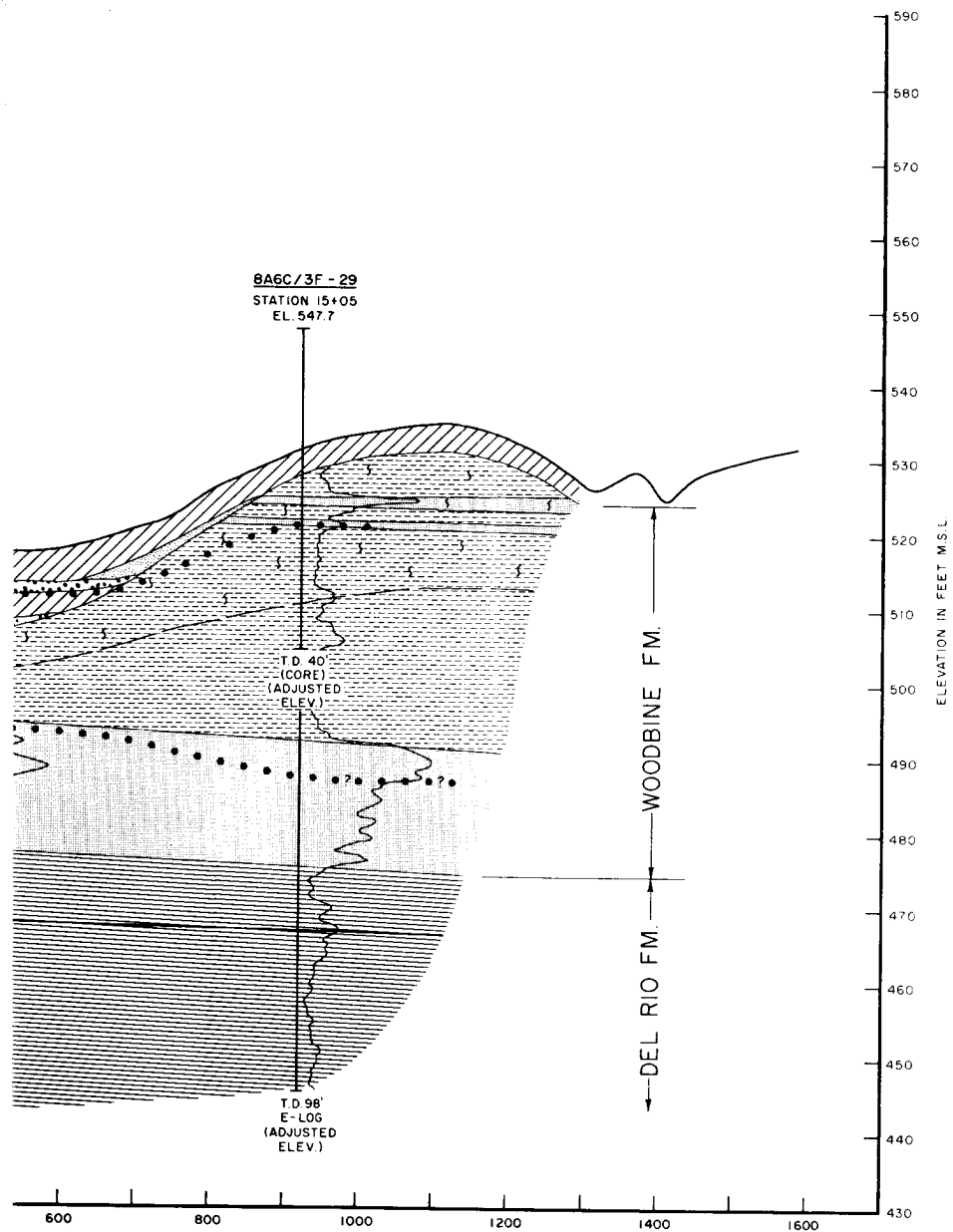


SECTION LOOKING TOWARD LEFT ABUTMENT

RECORD DRAWING - WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILL		
CHECKED BY:	GEOLOGIC PROFILE SECTION ON STA. 19+10 D-D		
SUBMITTED BY:	INV. NO. DACW63-78-8-004		
ENGINEER:	CONTR. NO. W63 78-C		
			DRAWING NUMBER

TO ACCOMPANY FINAL FOUNDATION REPORT



SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION

**U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS**

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

ENGINEER: _____

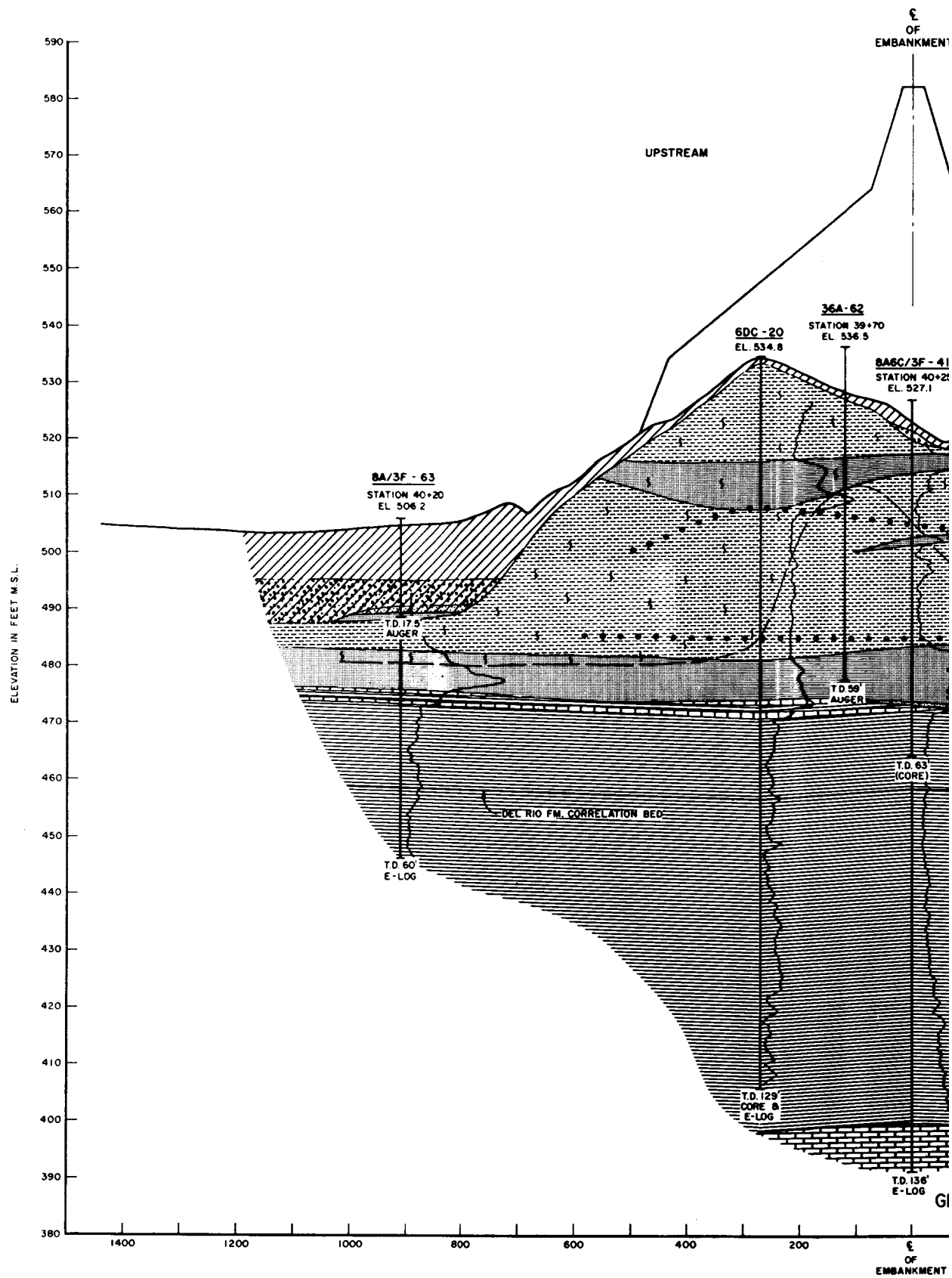
**AQUILLA LAKE
AQUILLA CREEK, TEXAS**

EMBANKMENT AND SPILLWAY

**GEOLOGIC PROFILE
SECTION ON STA. 19+10 D-D**

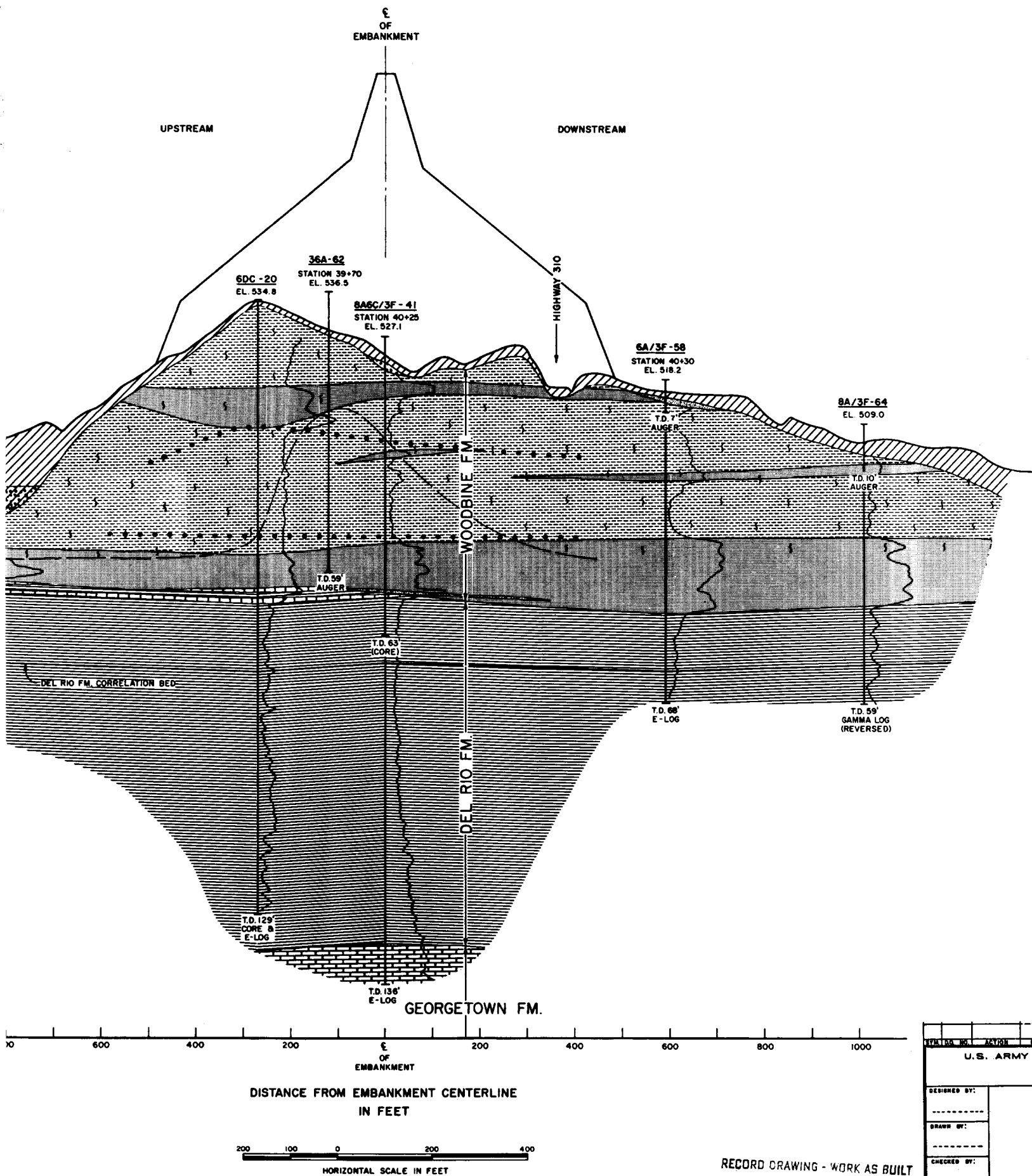
INV. NO. DACW 63-75-2-0042	DATED: MARCH 1976
CONTR. NO. "MW63 78-C-0104"	SEQUENCE NO. 95
DRAWING NUMBER	SHEET NO. OF

"MW63-78-C-0104"



NOTES:

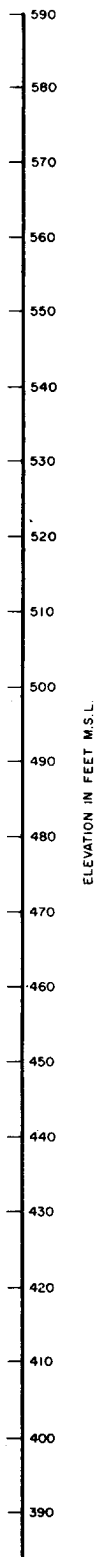
1. OVERBURDEN THICKNESS IS ESTIMATED FOR BORINGS AT ELEVATIONS ABOVE THE PROFILE.
2. DEPTH OF WEATHERING IN THE WOODBINE FORMATION IS ESTIMATED DOWNSTREAM FROM BORING BA6C/3F-41.
3. SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.



RECORD DRAWING - WORK AS BUILT

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

TO ACCOMPANY FINAL FOUR

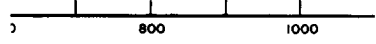


8A/3F-64
EL 509.0

T.D. 10'
AUGER

T.D. 59'
GAMMA LOG
(REVERSED)

58
0+30
2



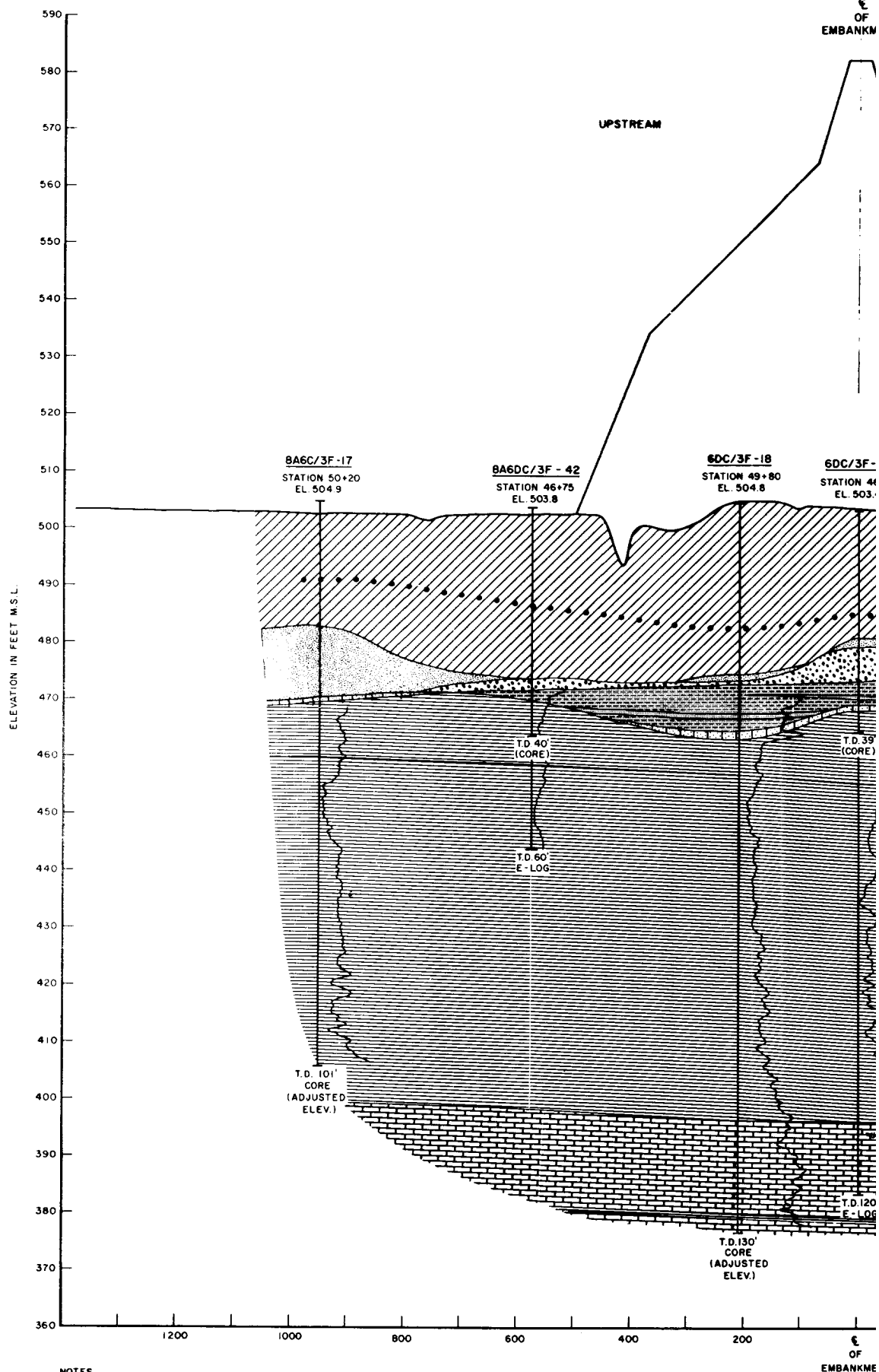
RECORD DRAWING - WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>		
DRAWN BY:	<p align="center">EMBANKMENT AND SPILLWAY</p>		
CHECKED BY:	<p align="center">GEOLOGIC PROFILE SECTION ON STA. 40+60 E-E</p>		
SUBMITTED BY:	INV. NO. DACW 63-78-5-0042	DATED: MARCH, 1978	
ENGINEER:	CONTR. NO. DAWES 78-C-0104	SEQUENCE NO.	
	DRAWING NUMBER	SHEET NO.	96
		OF	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 9

DAWES 78-C-0104

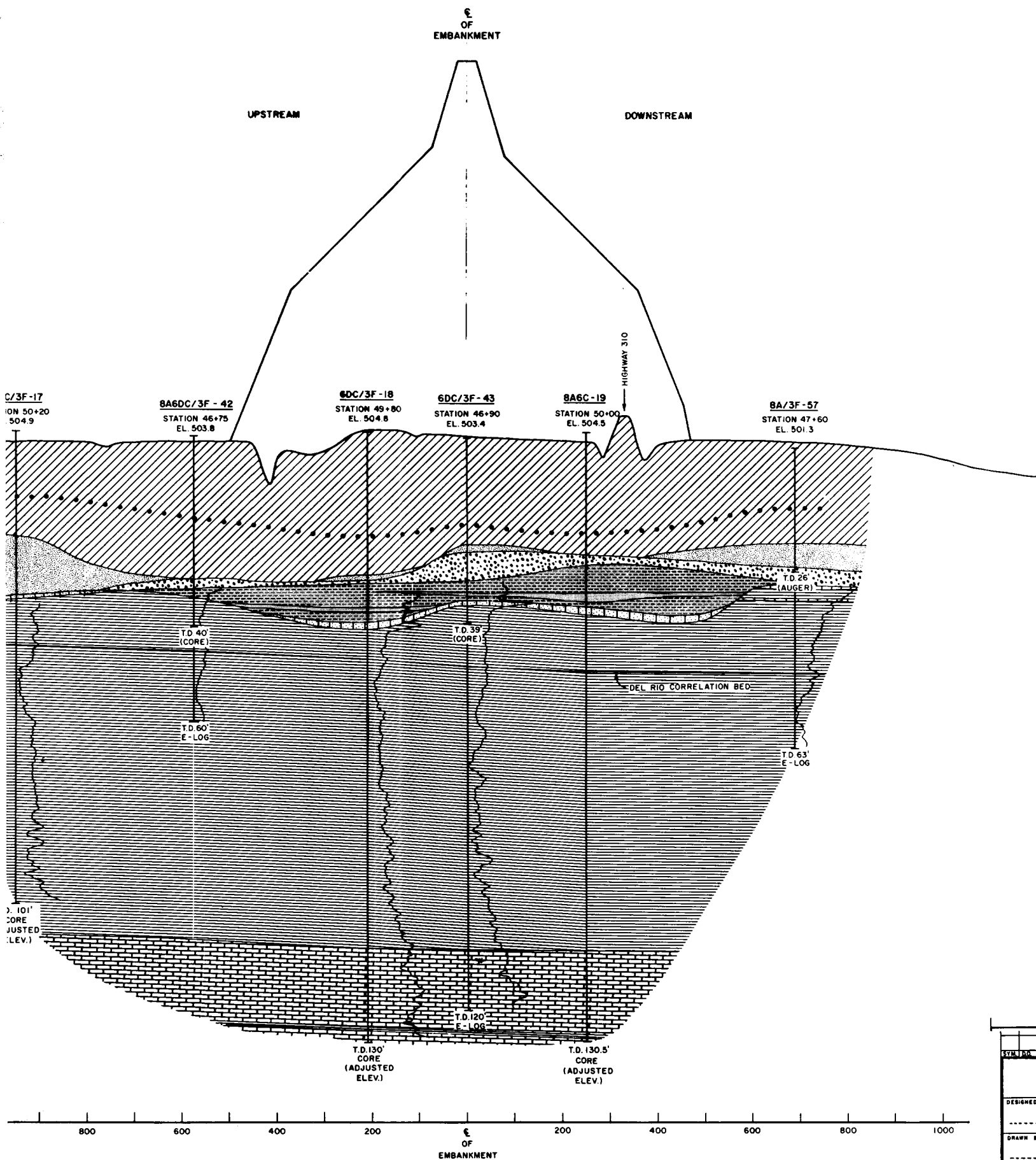


NOTES

1. PRIMARY STRATA SHOWN AT BORINGS 8A6C/3F-17 AND 6DC/3F-18 ARE DISPLACED UPWARD 2 FEET AND THOSE SHOWN AT BORING 8A6C-19 ARE DISPLACED UPWARD 3 FEET AS COMPENSATION FOR FORMATIONAL DIP.
2. SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.

DISTANCE FROM EMBANKMENT
IN FEET

SECTION LOOKING TOWARD



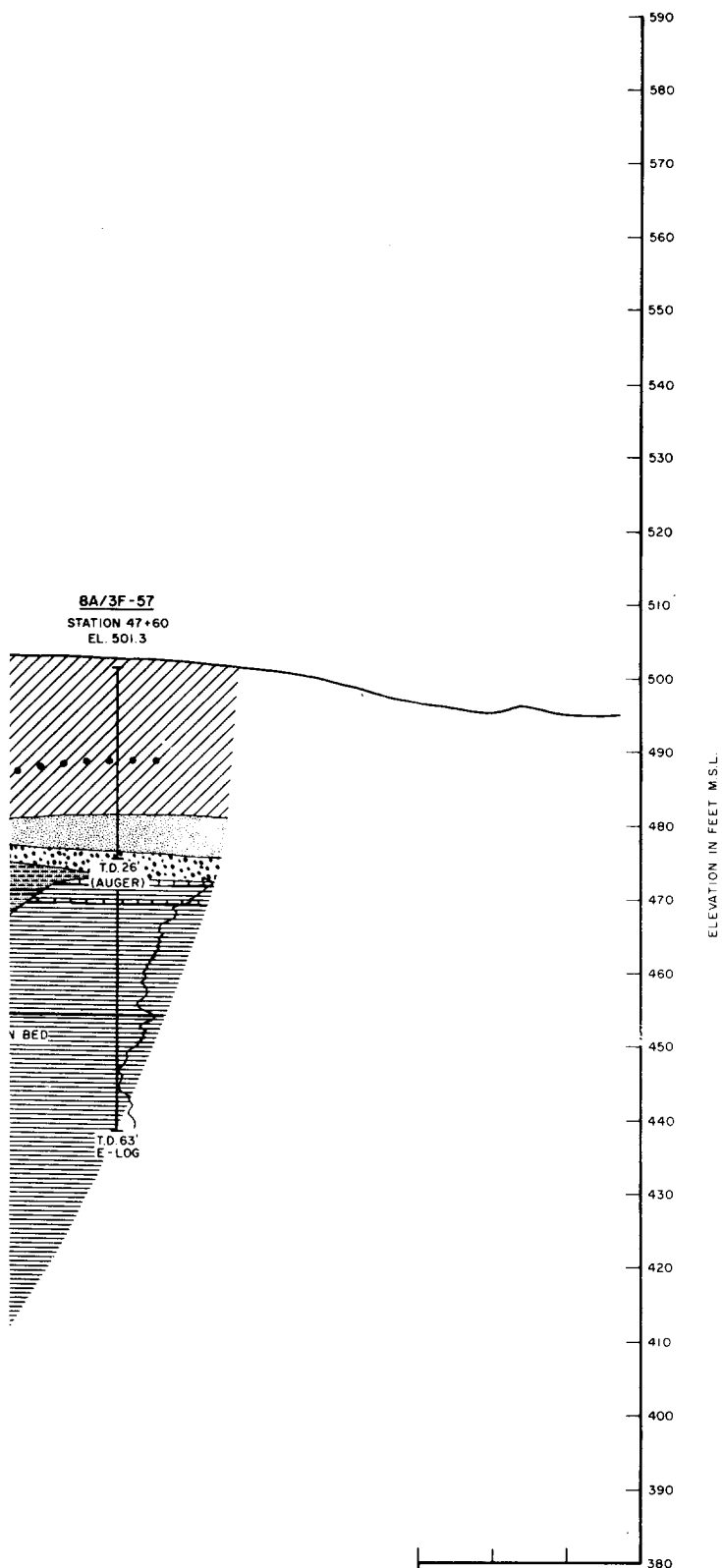
/3F-17 AND 6DC/3F-18
 SE SHOWN AT BORING
 AS COMPENSATION FOR

SECTION LOOKING TOWARD LEFT ABUTMENT

RECORD DRAWING - WORK AS BUILT

DESIGNED
DRAWN
CHECKED
SUBMITTED
ENGINEER

TO ACCOMPANY



SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	GEOLOGIC PROFILE		
SUBMITTED BY:	SECTION ON STA. 47+20 F-F		
ENGINEER:	INV. NO. DACW 63-78-D-0042	DATED: MARCH 1978	SEQUENCE NO.
	CONTR. NO. DACW 63 78-C-0104		
	DRAWING NUMBER	SHEET NO. 97	OF

RECORD DRAWING - WORK AS BUILT

A

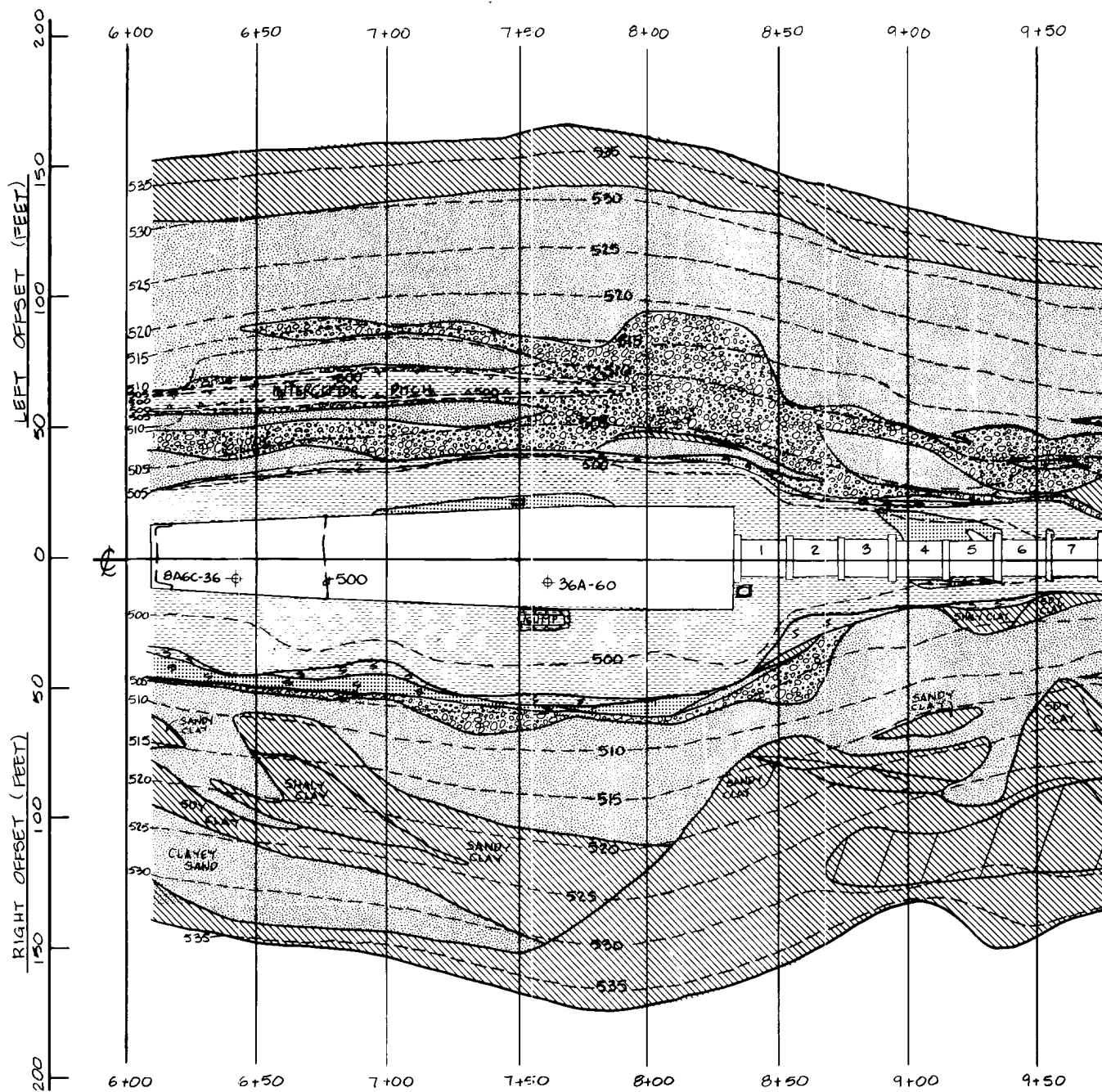
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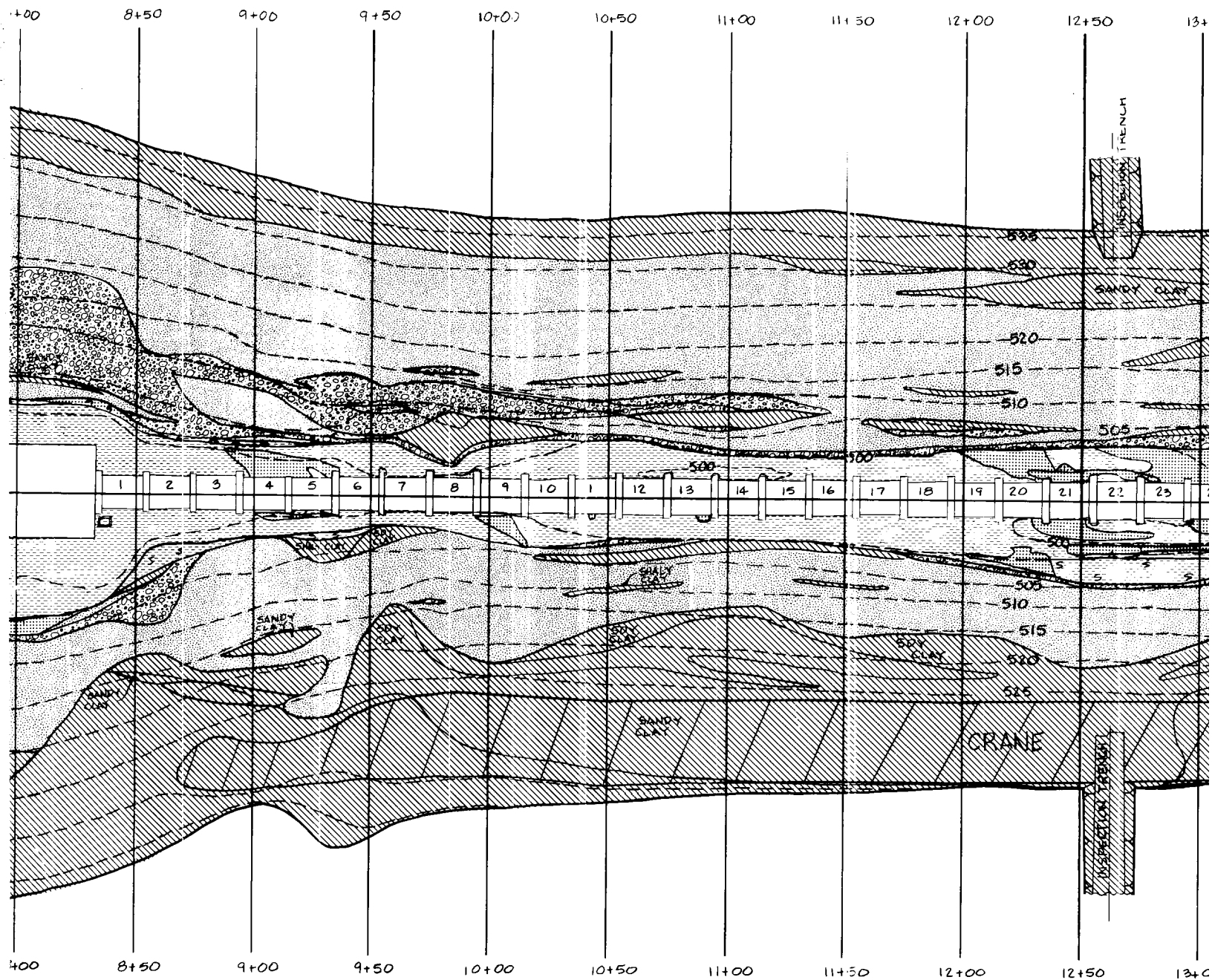
C

D

E

F

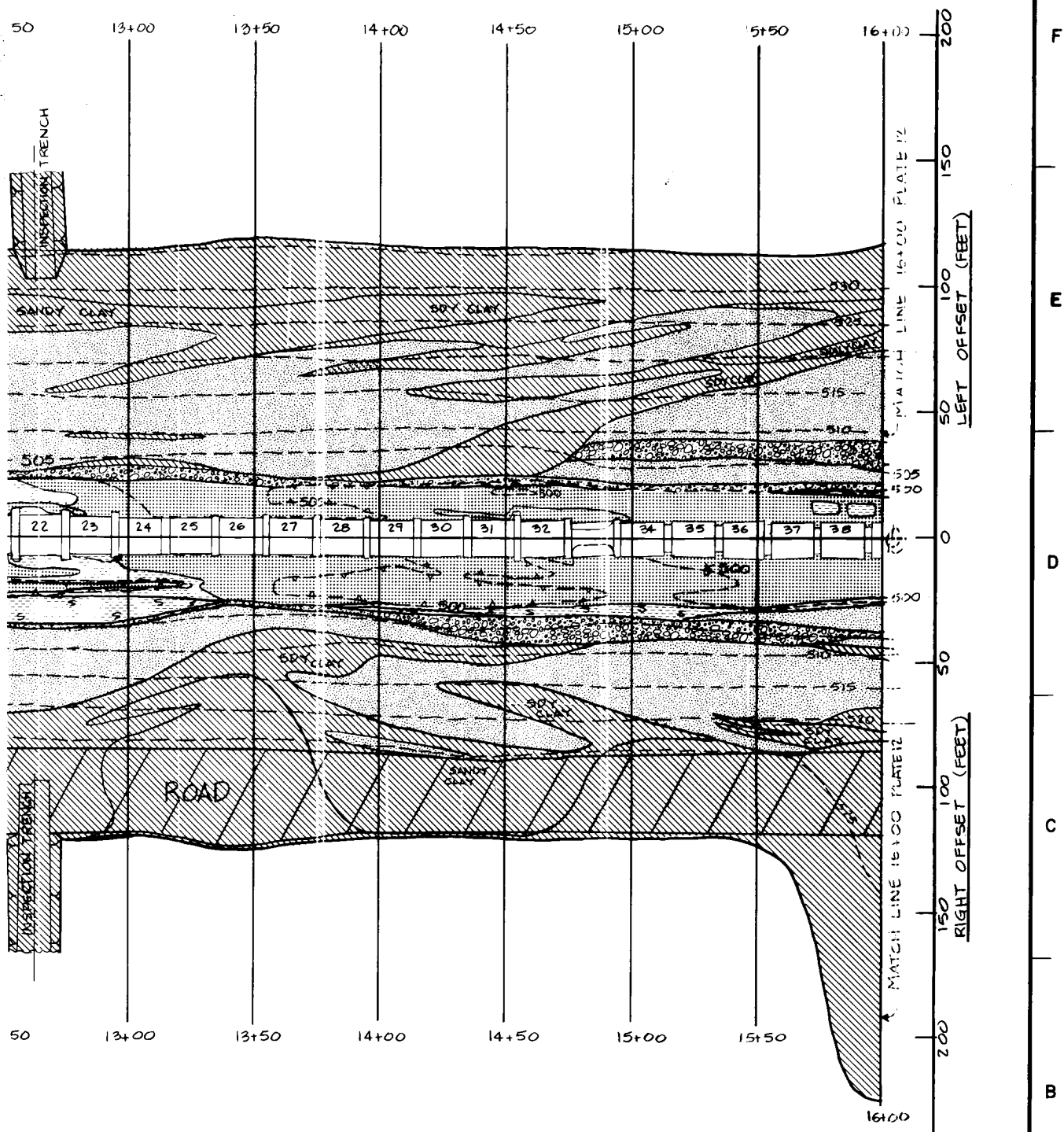




MAP SYMBOLS:

- STEEPLY DIP
- CLAY, SAND
- SAND, incl.
- GRAVEL
- SANDSTONE
- SHALE, WE
- SHALE, UNK

NOTE: THIN, RARE, CLAY-IRONST



SYMBOLS:

- 1 STEEPLY DIPPING FRACTURE WITH SANDSTONE FILLING.
- 2 CLAY, SANDY CLAY & SHALE CLAY
- 3 SAND, incl. CLAYEY SAND
- 4 GRAVEL
- 5 SANDSTONE
- 6 SHALE, WEATHERED
- 7 SHALE, UNWEATHERED
- 8 THIN, RARE, LOCAL LAYERS OF CONCRETIONARY CLAY-IRONSTONE ARE NOT SHOWN HERE.

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION

DESIGNED BY: G. RUEPE		U.S. ARMY ENGINEER (DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS)	
DRAWN BY: C. KIRBY		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT	
REVIEWED BY: R. BEHM		OUTLET WORKS GEOLOGY AND EXCAVATION STA. 6+10.25 TO STA. 16+00.00	
SUBMITTED BY: ROBERT BEHM		INVITATION NO.	DATE:
ENGINEER:		CONTRACT NO.	SEQUENCE NO.
		DRAWING NUMBER	SHEET NO. OF

F

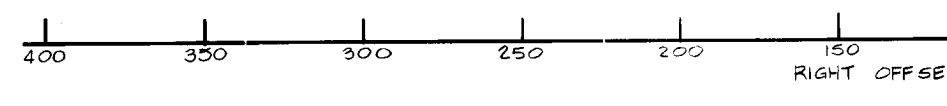
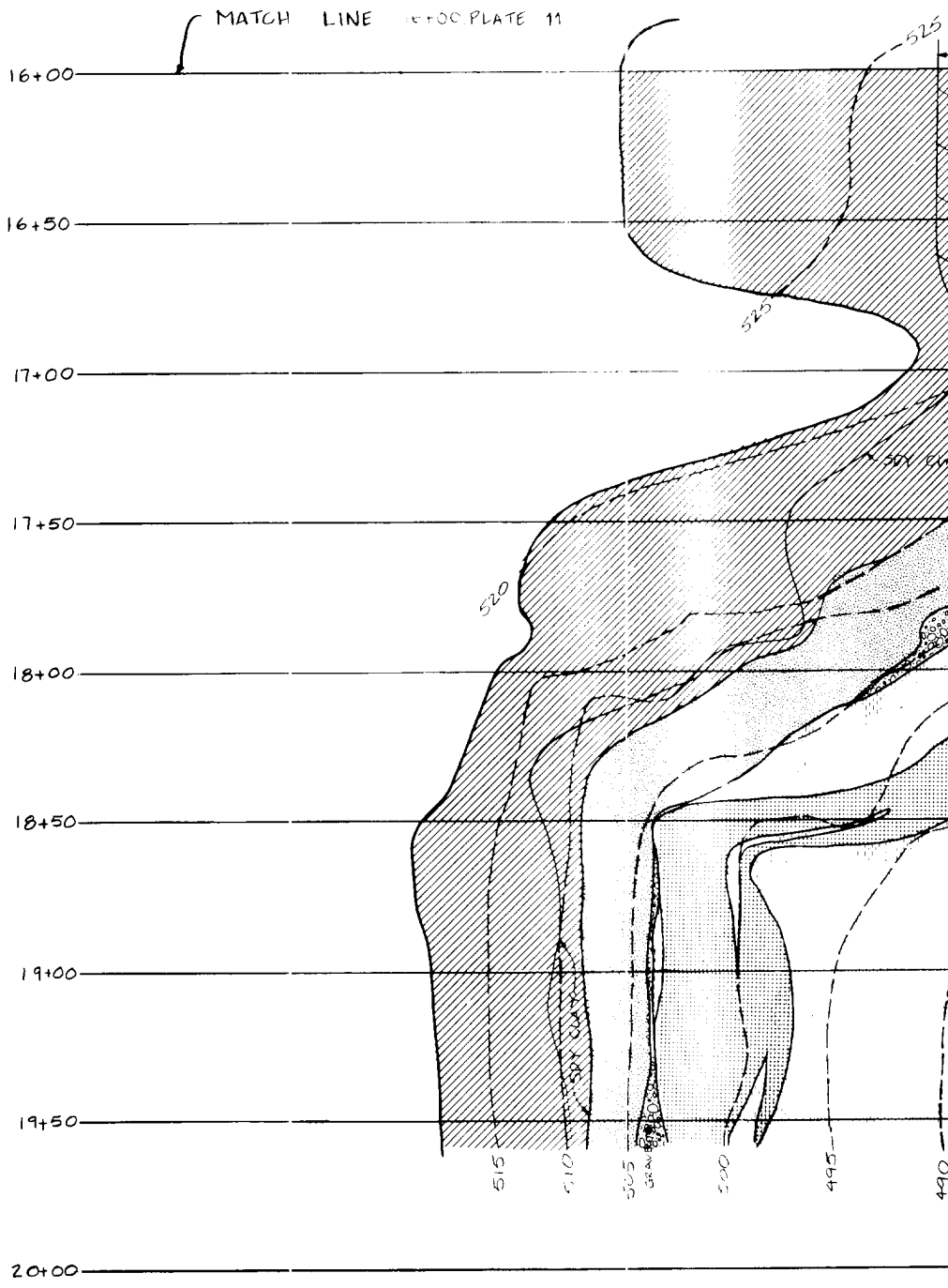
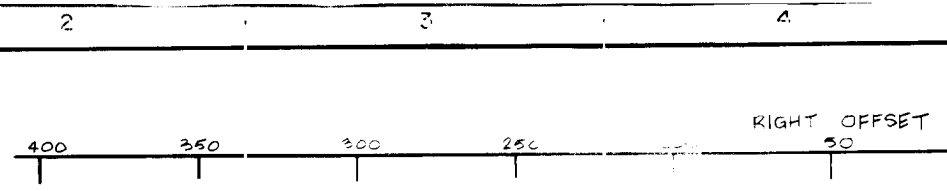
E

D

C

B

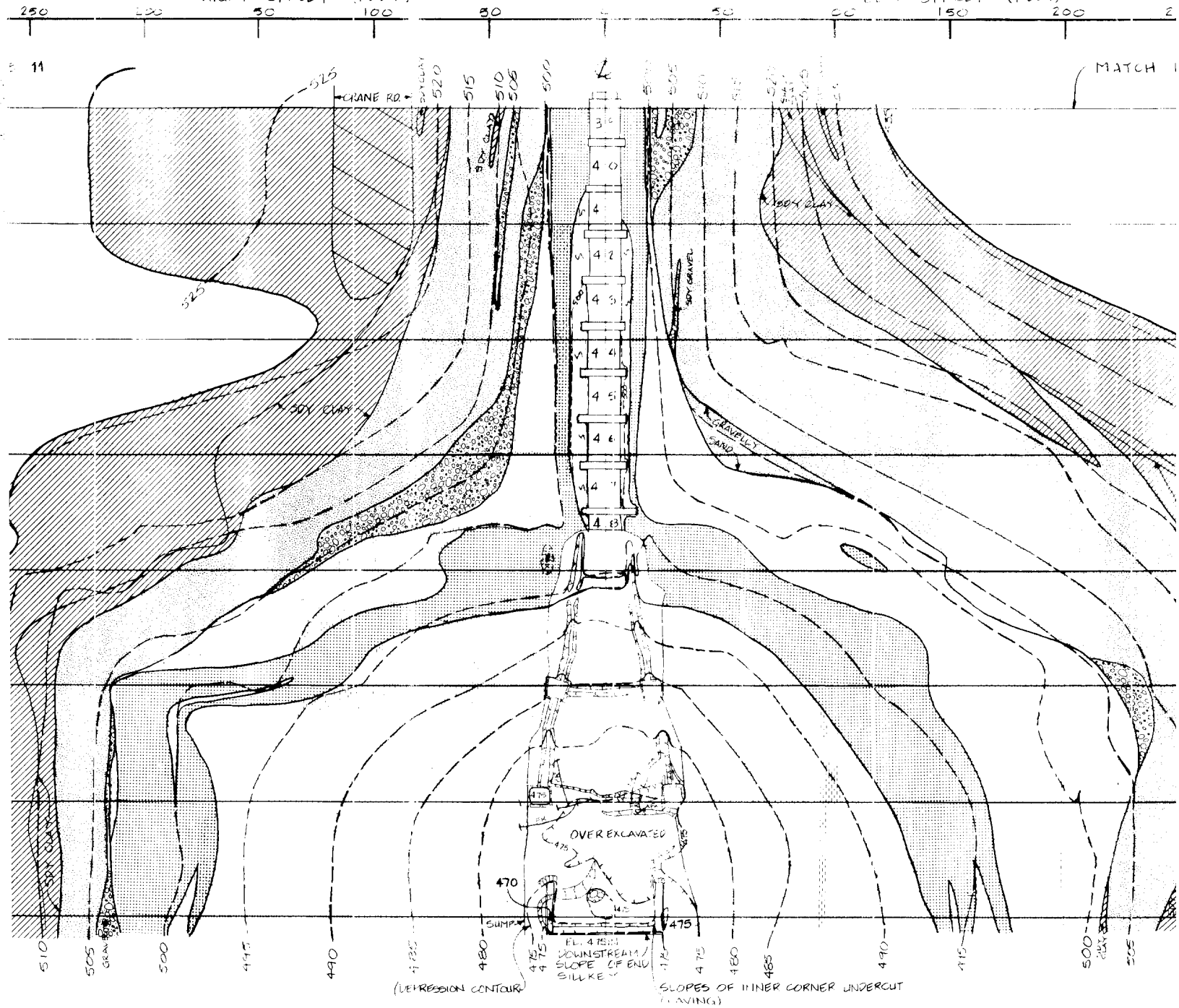
A



2 POLYTRACE 033

RIGHT OFFSET (FEET)

LEFT OFFSET (FEET)

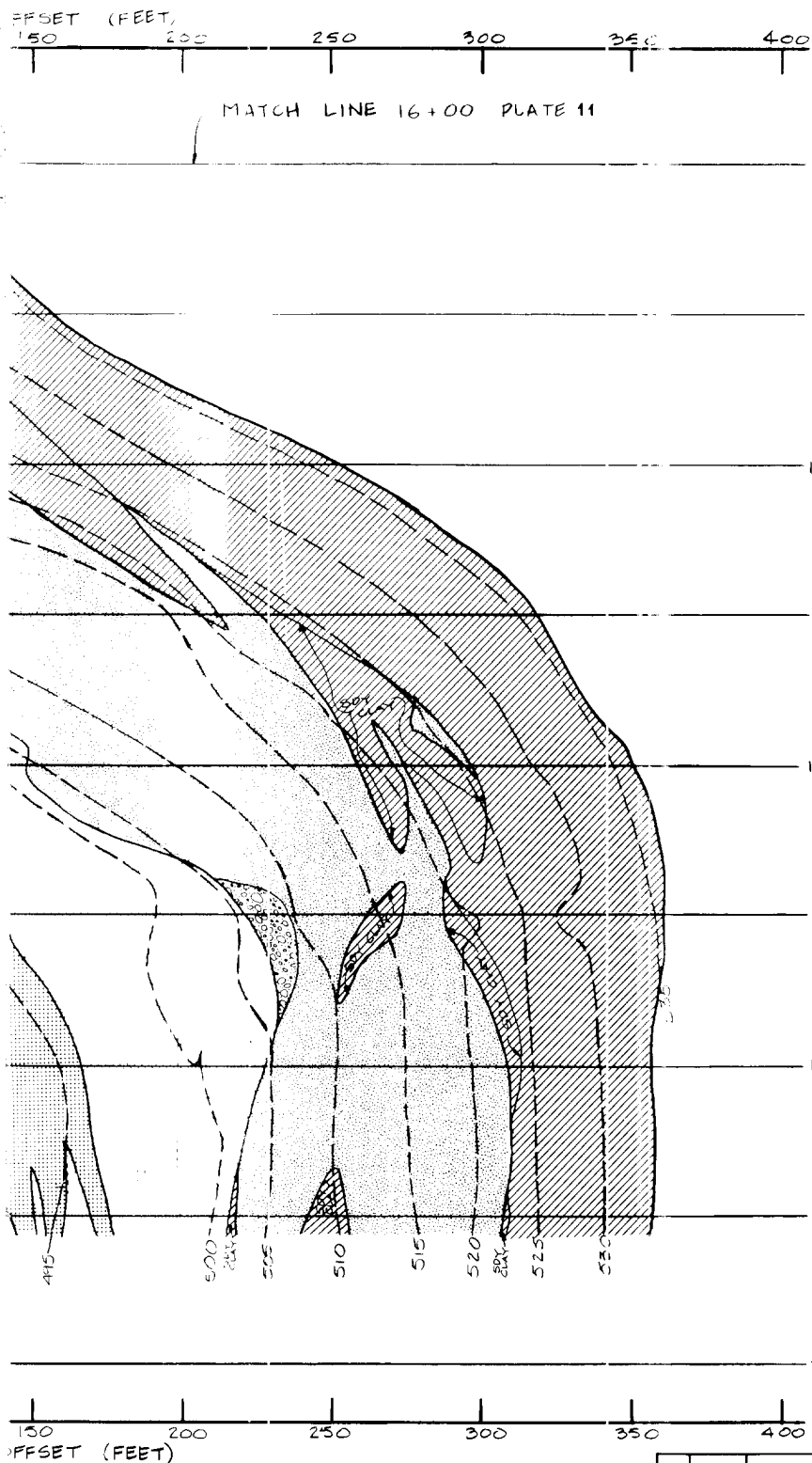


RIGHT OFFSET (FEET)

LEFT OFFSET (FEET)

MAP SYMBOL

- FR STEEPLY DIP WITH SANDSTONE
- CLAY, SDY CLAY
- SAND, incl. G
- GRAVEL
- SANDSTONE
- SHALE, WEATH
- SHALE, UNWEATH



- MAP SYMBOLS**
- ←FR→ STEEPLY DIPPING FRACTURE WITH SANDSTONE FILLING.
- CLAY, SILT CLAY & SHALY CLAY
- SAND, incl. CLAYEY SAND
- GRAVEL
- SANDSTONE
- SHALE, WEATHERED
- SHALE, UNWEATHERED

SYM.		DO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
						U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY:		AQUILLA LAKE				
G. RUEDE		AQUILLA AND HACKBERRY CREEKS, TEXAS				
DRAWN BY:		FINAL FOUNDATION REPORT				
C. KIRBY		OUTLET WORKS				
REVIEWED BY:		GEOLOGY AND EXCAVATION				
R. BEHM		STA. 16+00.00 TO STA. 19+56.95				
SUBMITTED BY:		INVITATION NO.		DATE:		
ROBERT BEHM		CONTRACT NO.		SHEET NO.		SEQUENCE NO.
		DRAWING NUMBER		OF		

CONTRACT NO. 13

1

F

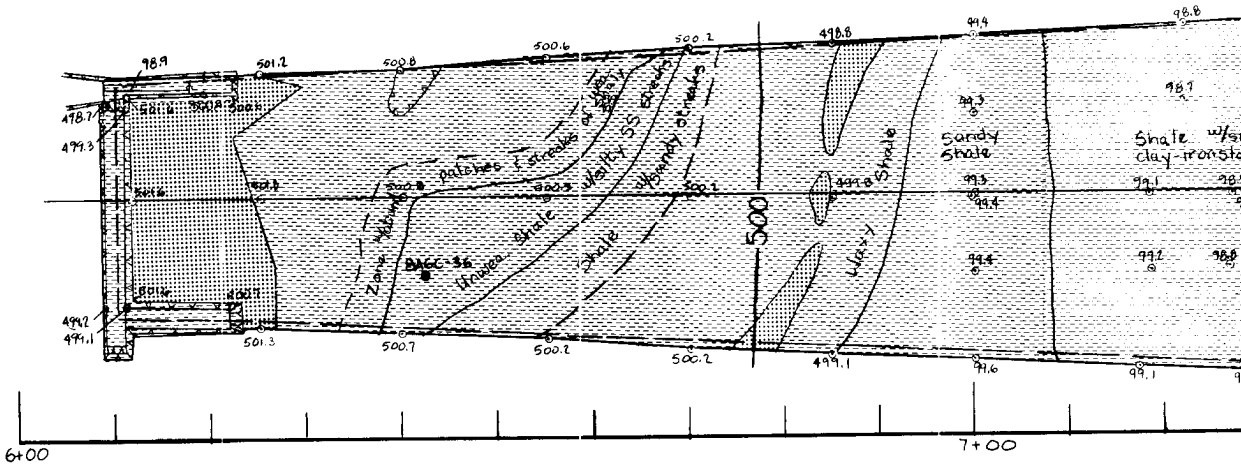
ELEVATION
502
500
498
496

APPROACH SLAB

E

LEFT OFFSET (FEET)
20
15
10
5
0
5
10
15
20

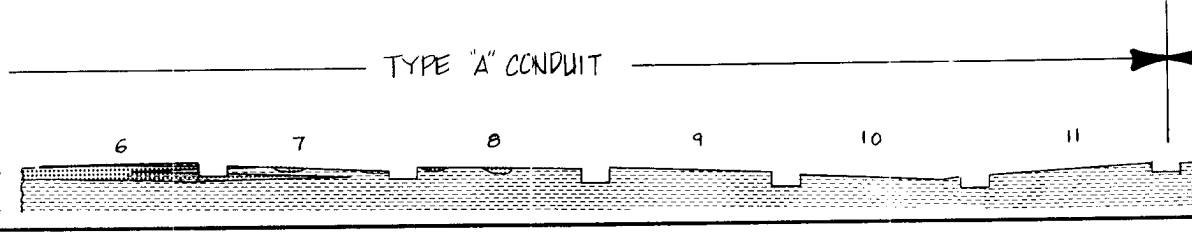
RIGHT OFFSET (FEET)
20
15
10
5
0
5
10
15
20



D

TYPE "A" CONDUIT

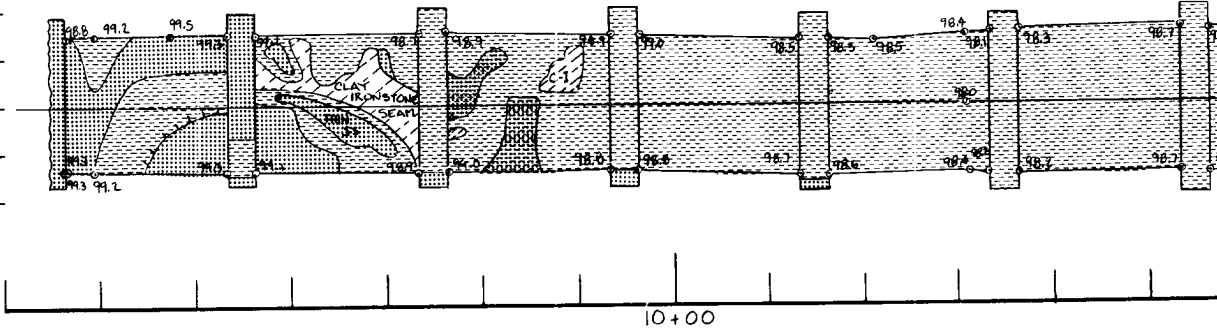
ELEVATION
502
500
498
496



C

LT. % (FEET)
10
5
0
5
10

RT. % (FEET)
10
5
0
5
10



B

10+00

A

POINT OF 0.03

1

2

3

4

GATE TOWER

Geological cross-section diagram showing various rock layers and elevations. The diagram includes labels for "Sandy shale", "Shale w/ silty streaks & clay ironstone concretions", "Sandstone", and "Sandstone w/ silty streaks & clay ironstone concretions". Elevation points are marked along the top and bottom boundaries, ranging from 97.0 to 99.8. A central feature is labeled "361-60".

STATIONS
PLAN VIEW, APPROACH, TOWER AND CONDUIT

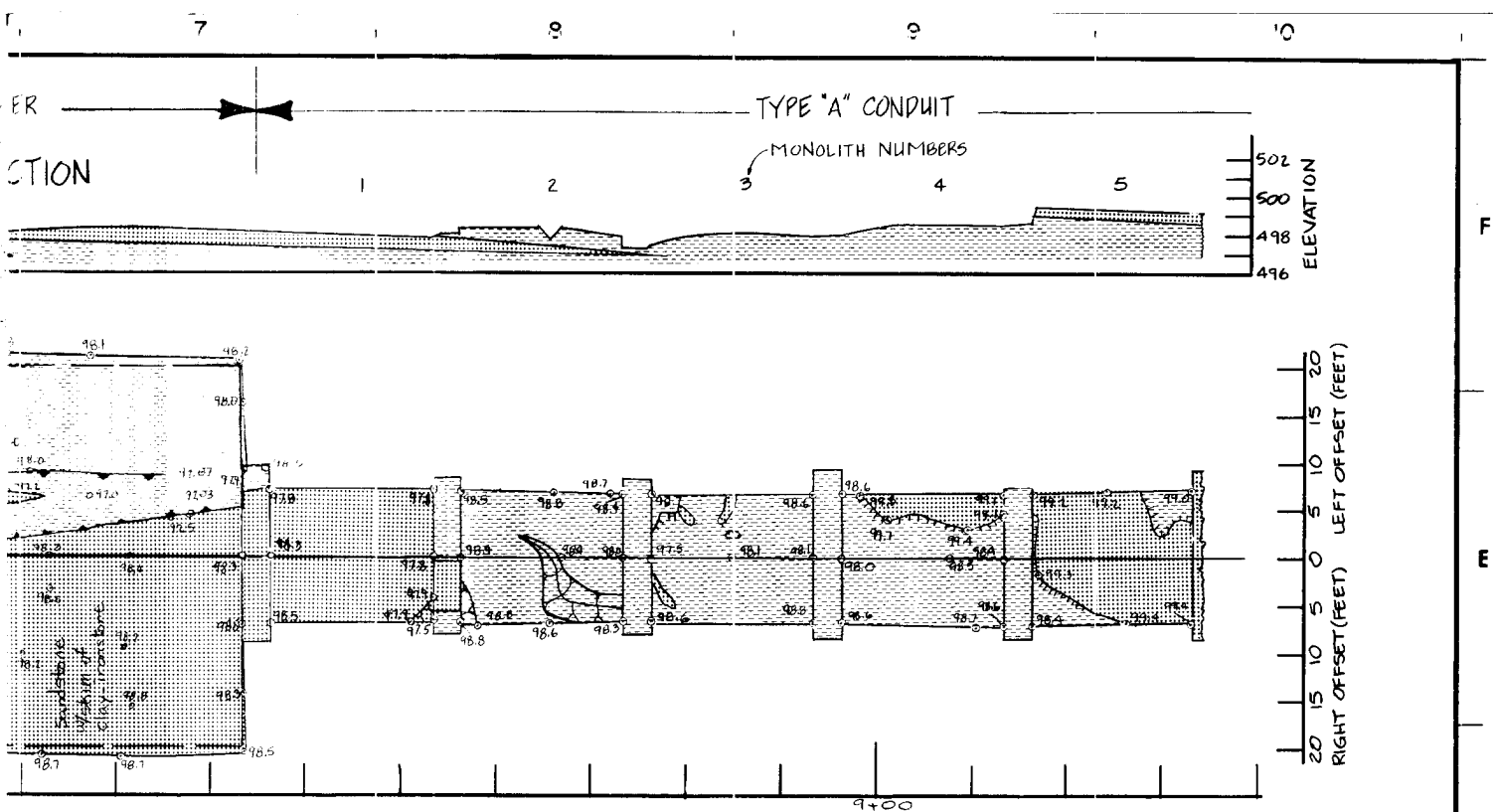
CENTERLINE SECTION

[illegible]

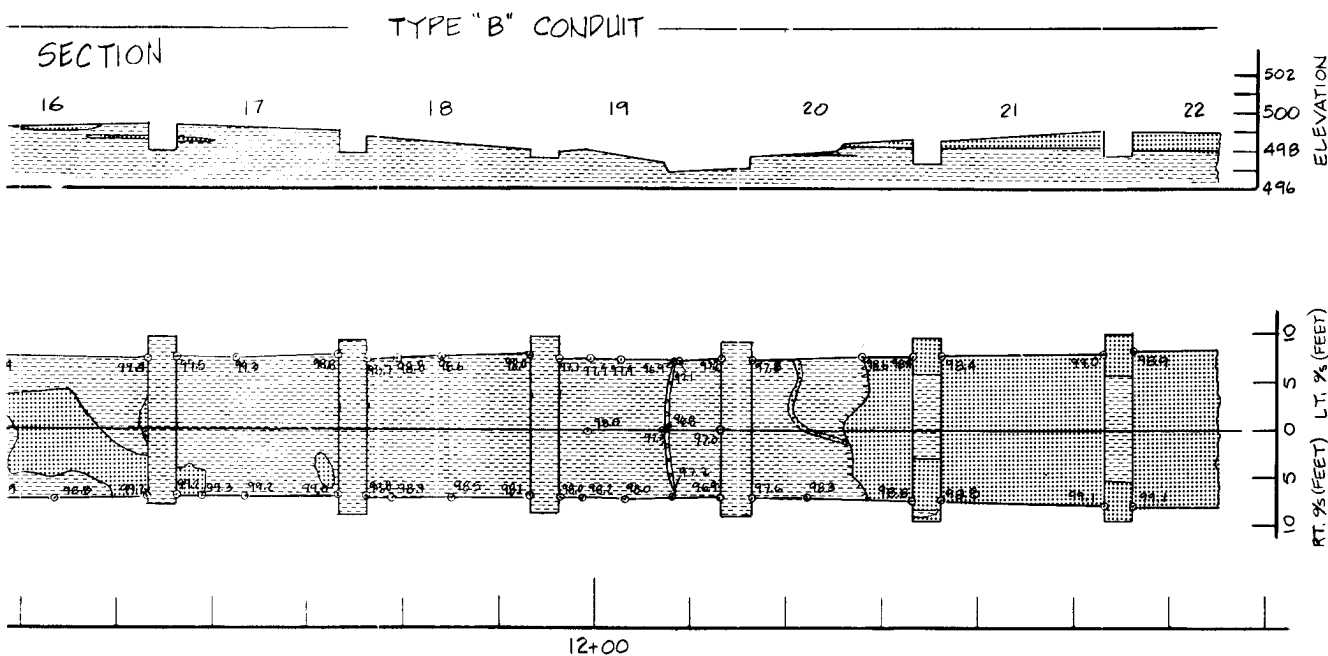
STATIONS
PLAN VIEW OF CONDUIT FOUNDATION

NOTE:

1. FOR PLAN VIEW MAP SYMBOLS, REFERENCE



OWER AND CONDUIT



UIT FOUNDATION

E:
FOR PLAN VIEW MAP SYMBOLS, REFER TO PLATE 15.

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
DESIGNED BY: <u>G. RUEDE</u>			U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS STRUCTURES GEOLOGY AND EXCAVATION STA. 6+09.05 TO STA. 12+65.00
DRAWN BY: <u>C. KIRBY</u>			
REVIEWED BY: <u>R. BEHM</u>			
SUBMITTED BY: <u>ROBERT BEHM</u>			
INVESTIGATION NO.		DATE:	
CONTRACT NO.		SEQUENCE NO.	
DRAWING NUMBER		SHEET NO. OF	

CONTRACT NO.

1

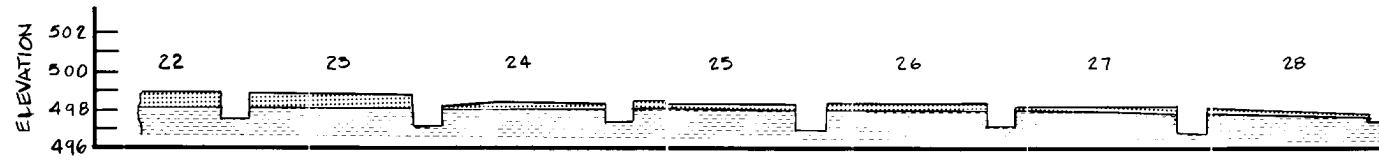
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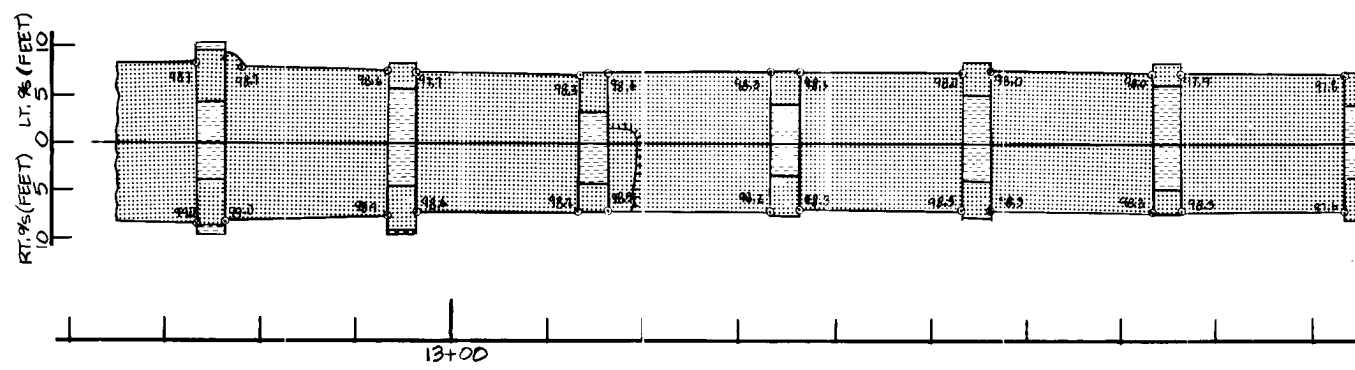
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TYPE "B" CONDUIT

F

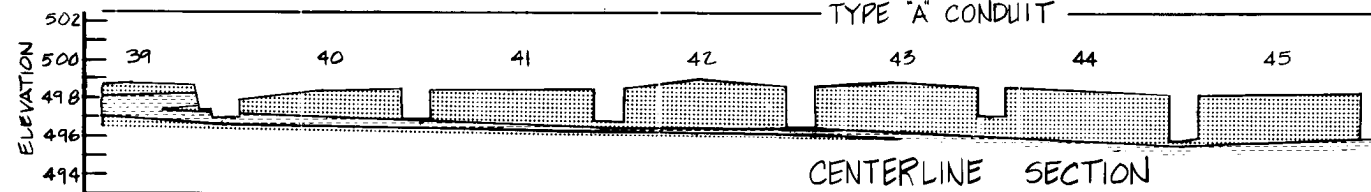


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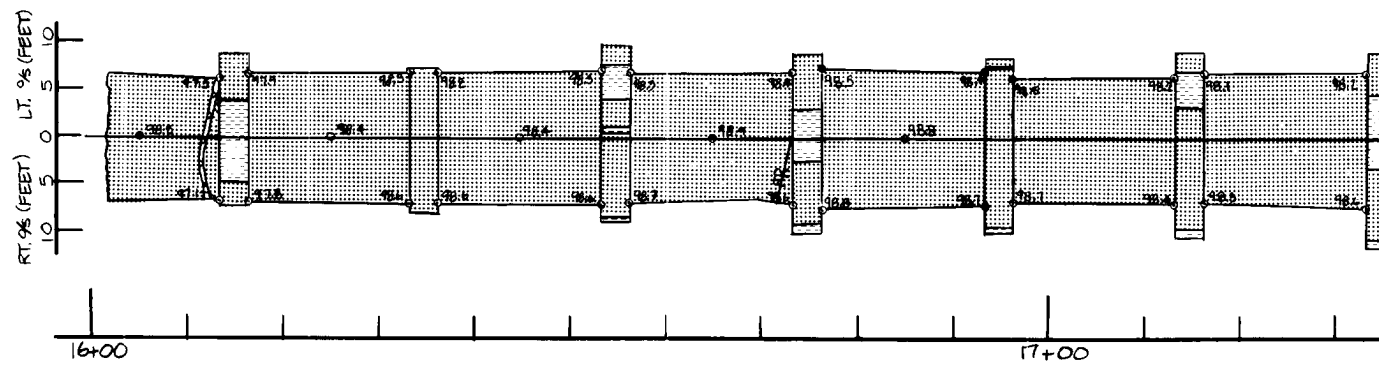


D

TYPE "A" CONDUIT



C



B

STATIONS
PLAN OF CONDUIT FOUNDATION

A

P. POLYMER 003

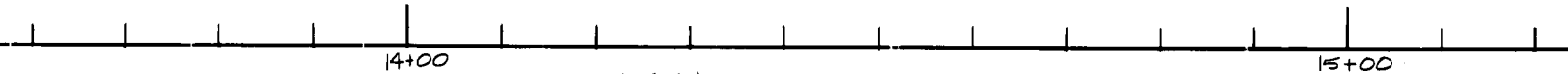
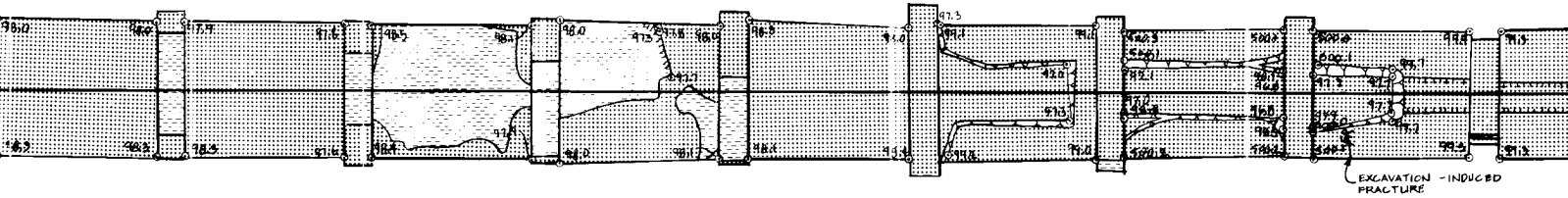
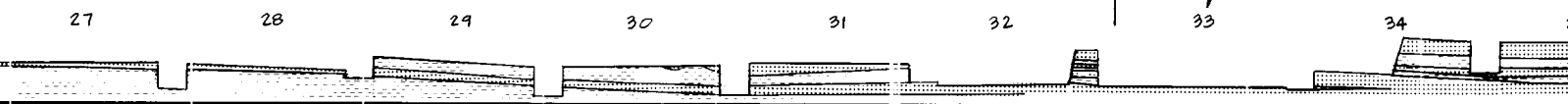
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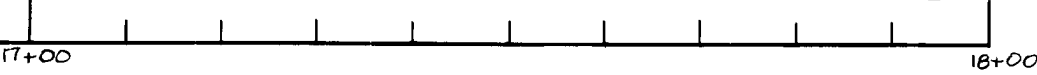
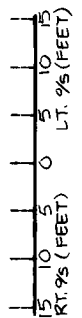
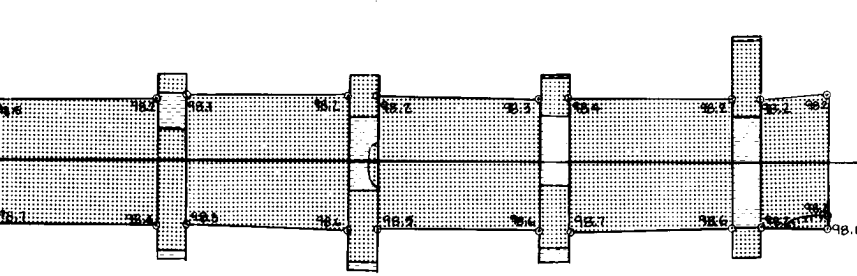
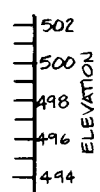
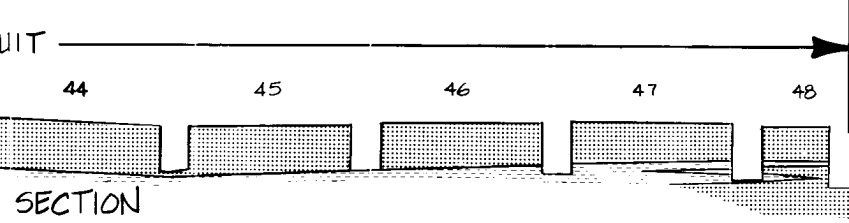
4

- TYPE "B" CONDUIT

CENTERLINE SECTION



STATIONS
PLAN OF CONDUIT FOUNDATION

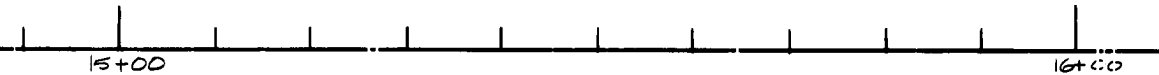
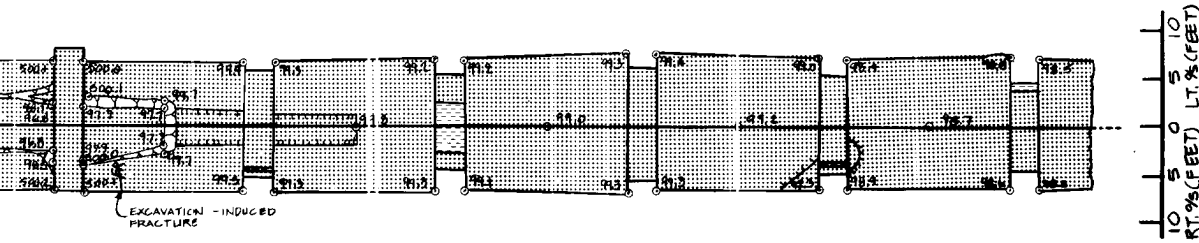
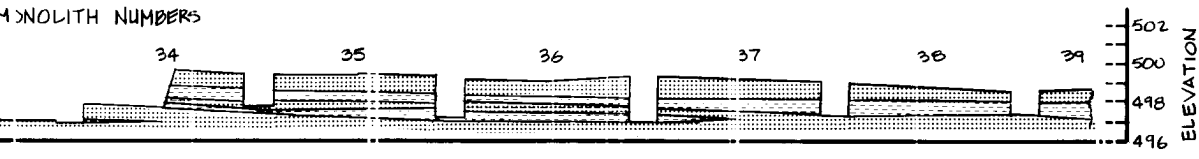


STATIONS
CONDUIT FOUNDATION

NOTE:
1. FOR PLAN VIEW MAP SYMBOLS, REFER TO PLATE 15.

TYPE "A" CONDUIT

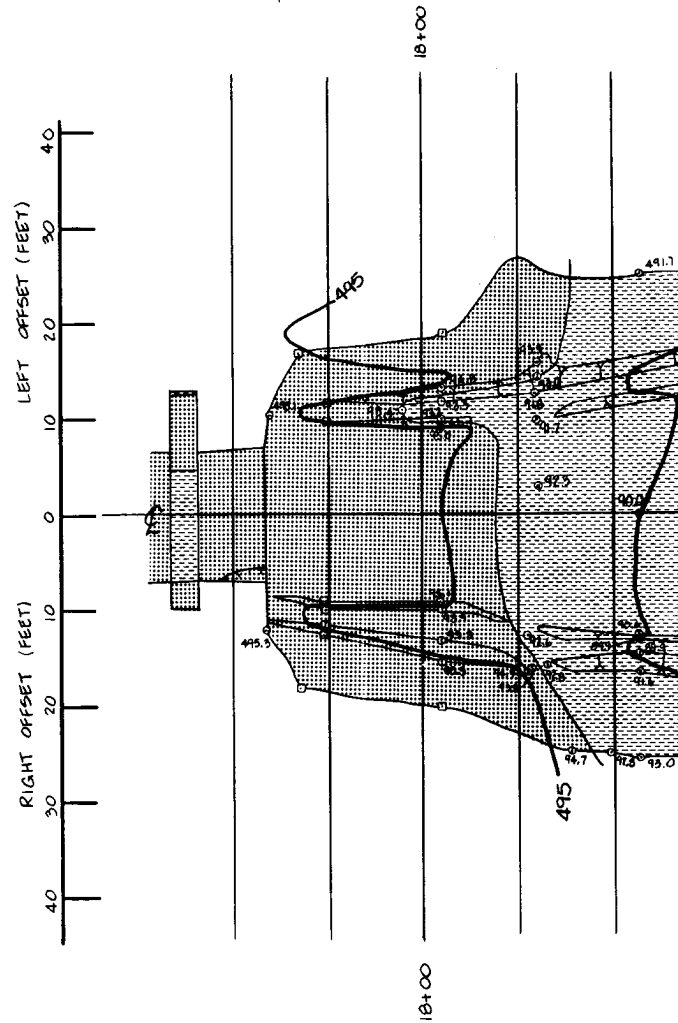
MONOLITH NUMBERS

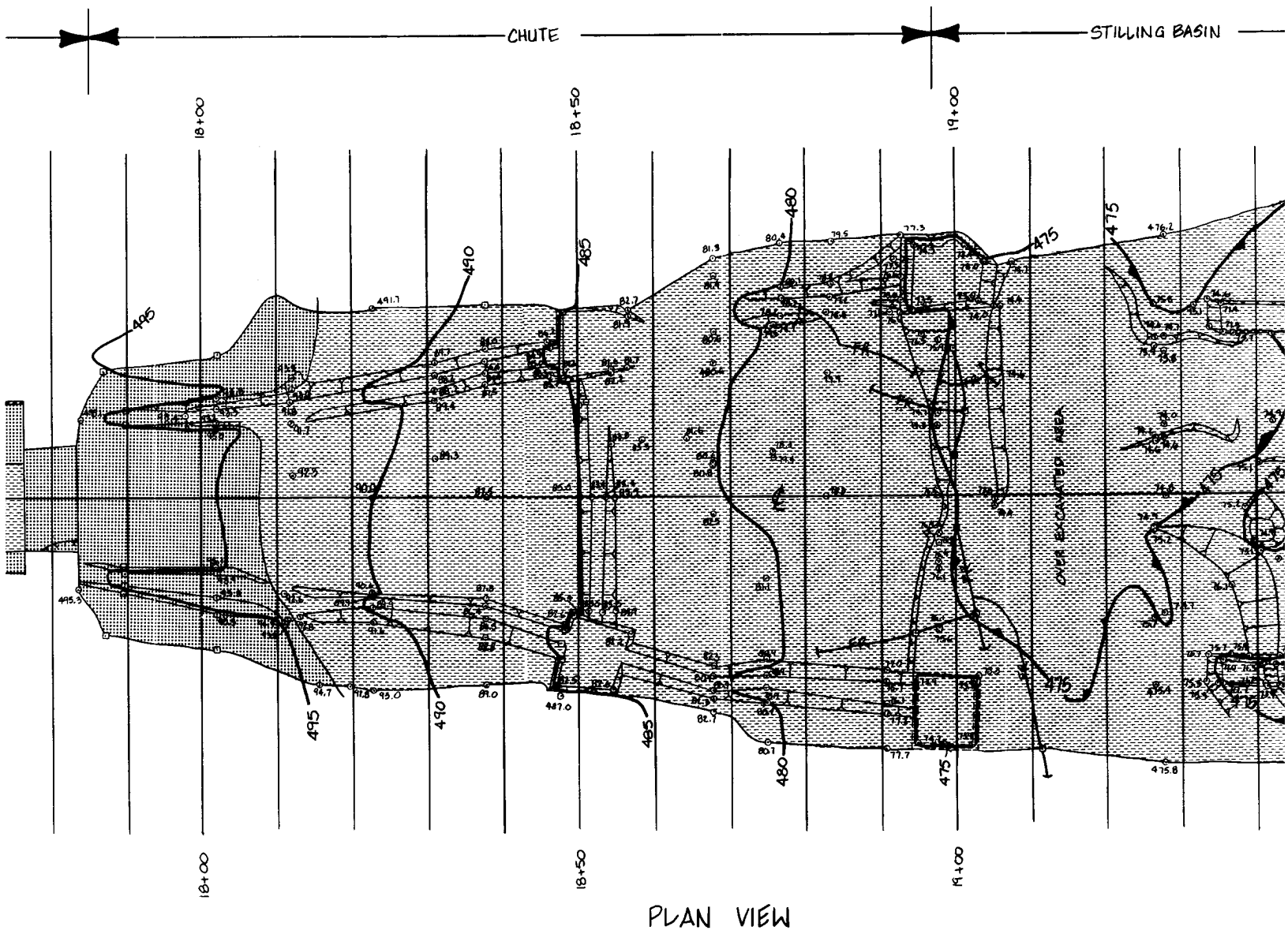
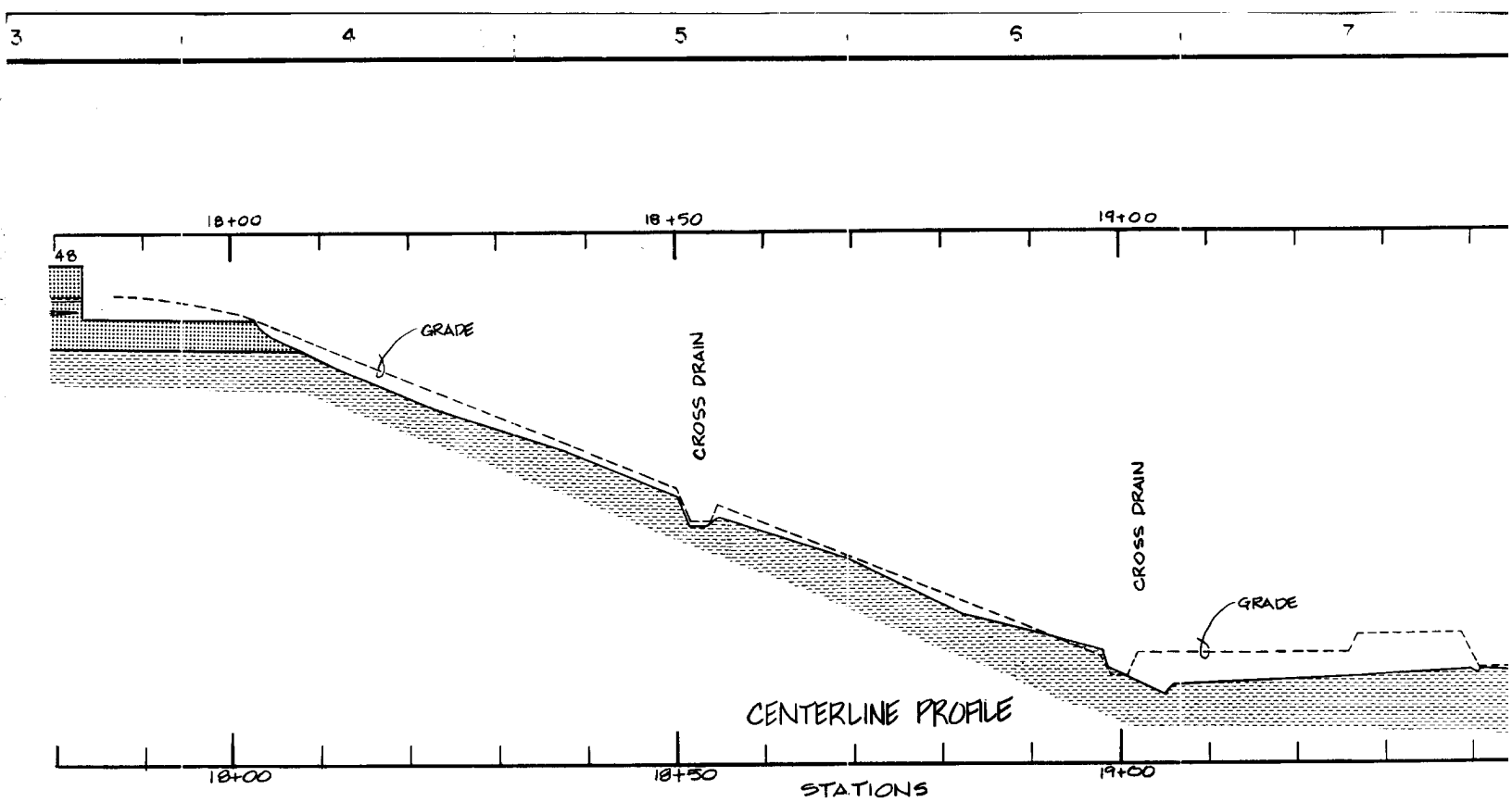


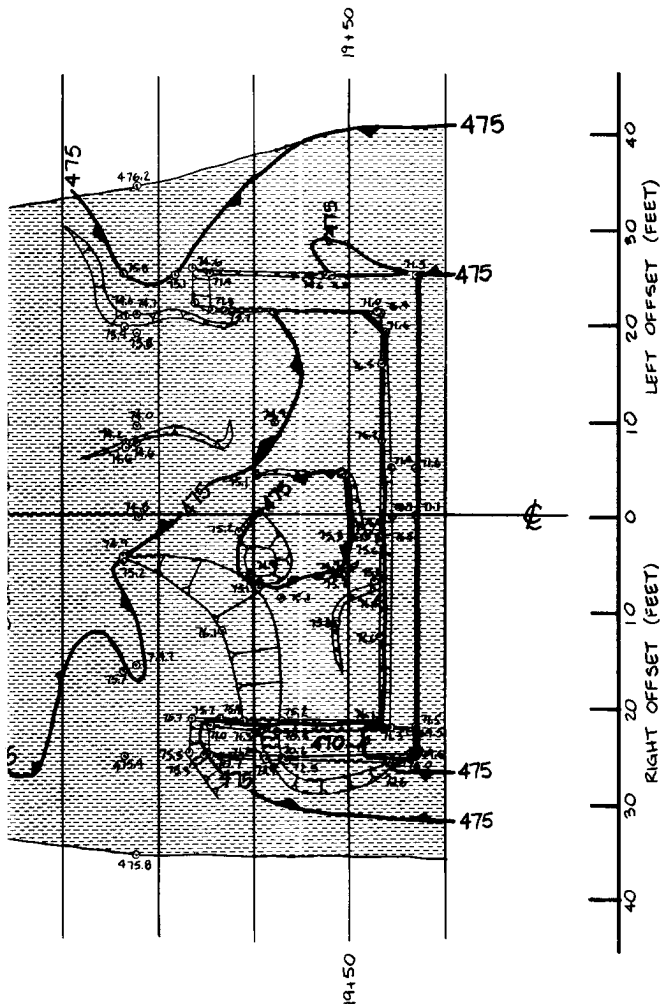
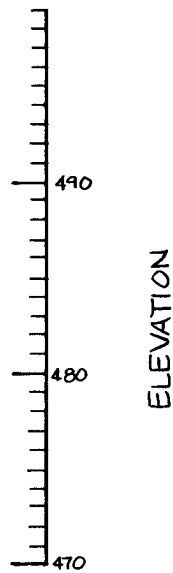
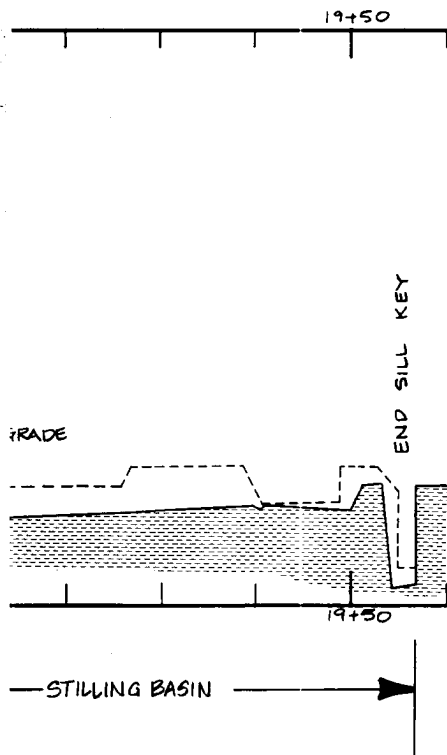
REFER TO PLATE 15.

SYN. DD. NO.				ACTION		DATE		DESCRIPTION OF REVISION	
								U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY: <u>G. RUEDE</u>		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS STRUCTURES GEOLOGY AND EXCAVATION STA. 12+65.00 TO STA. 17+83.25							
DRAWN BY: <u>G. KIRBY</u>									
REVIEWED BY: <u>R. BEHM</u>									
SUBMITTED BY: <u>ROBERT BEHM</u>									
ENGINEER:		INVITATION NO.		DATE:		CONTRACT NO.		SEQUENCE NO.	
		DRAWING NUMBER		OF		SHEET NO.			

A



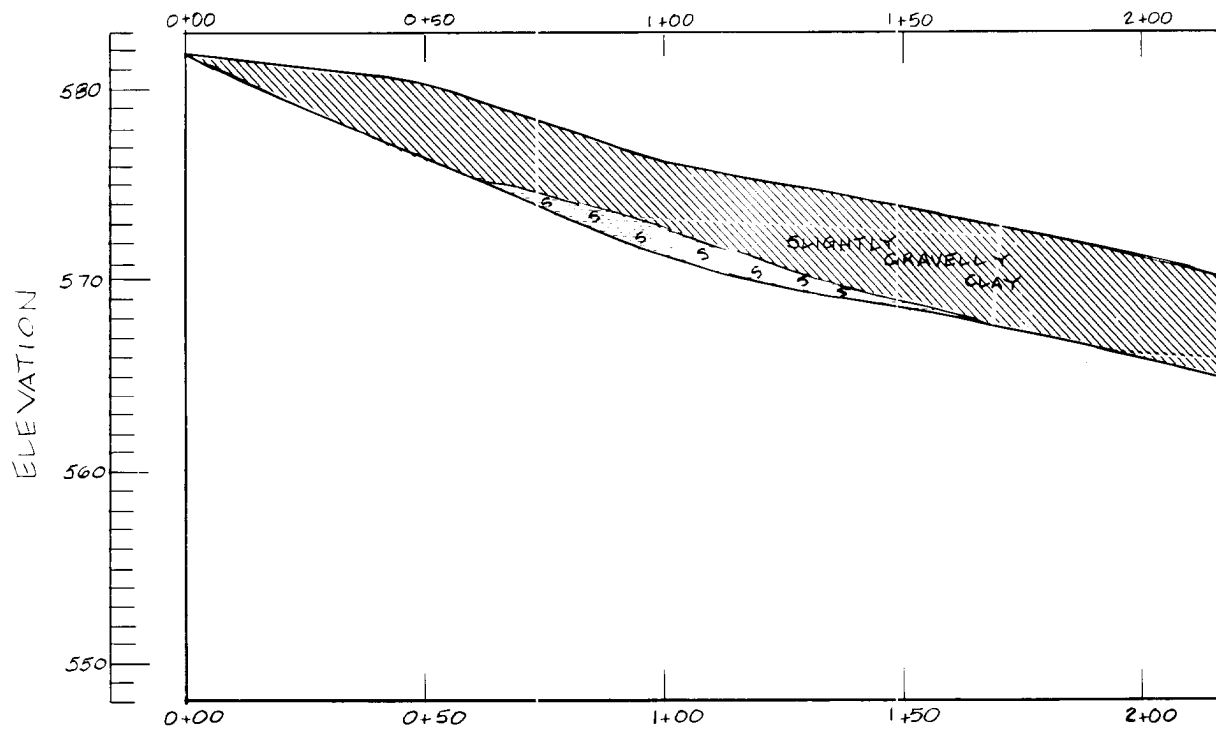




- MAP SYMBOLS FOR PLAN VIEW
- DATA POINTS: ELEVATIONS, LOCATION
 - ◻ LOCATION DATA ONLY
 - FR STEEP-DIPPING FRACTURES FILLED WITH SANDSTONE, TERMINATION OF FRACTURES SHOWN.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
				U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY: G. RUDE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS STRUCTURES GEOLOGY AND EXCAVATION? STA. 17+83.25 TO STA. 19+56.95		
DRAWN BY: C. KIRBY				
REVIEWED BY: R. BEHM				
SUBMITTED BY: ROBERT BEHM				
ENGINEER:		INVITATION NO.	DATE:	
		CONTRACT NO.	SHEET NO. OF	
		DRAWING NUMBER	SEQUENCE NO.	

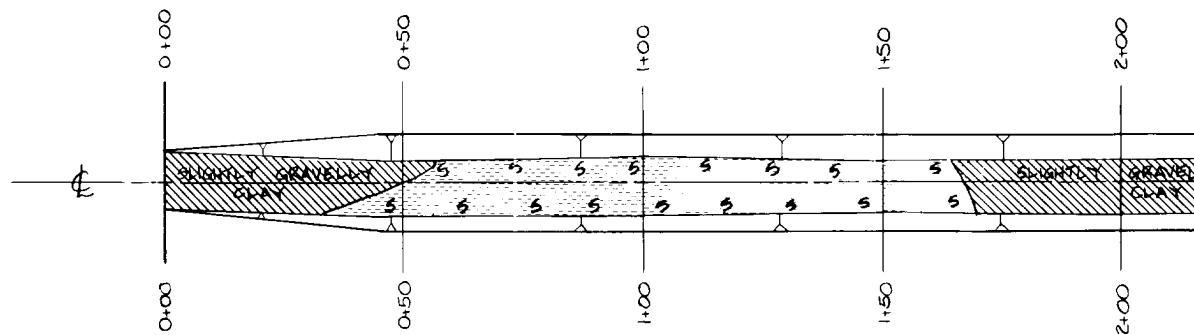
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E

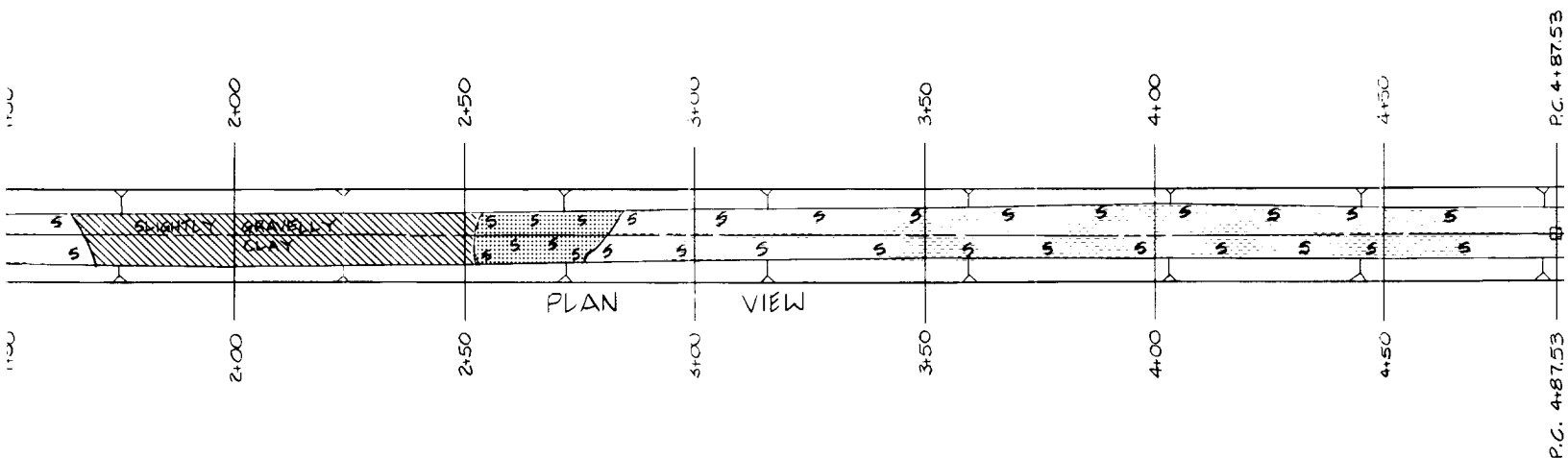
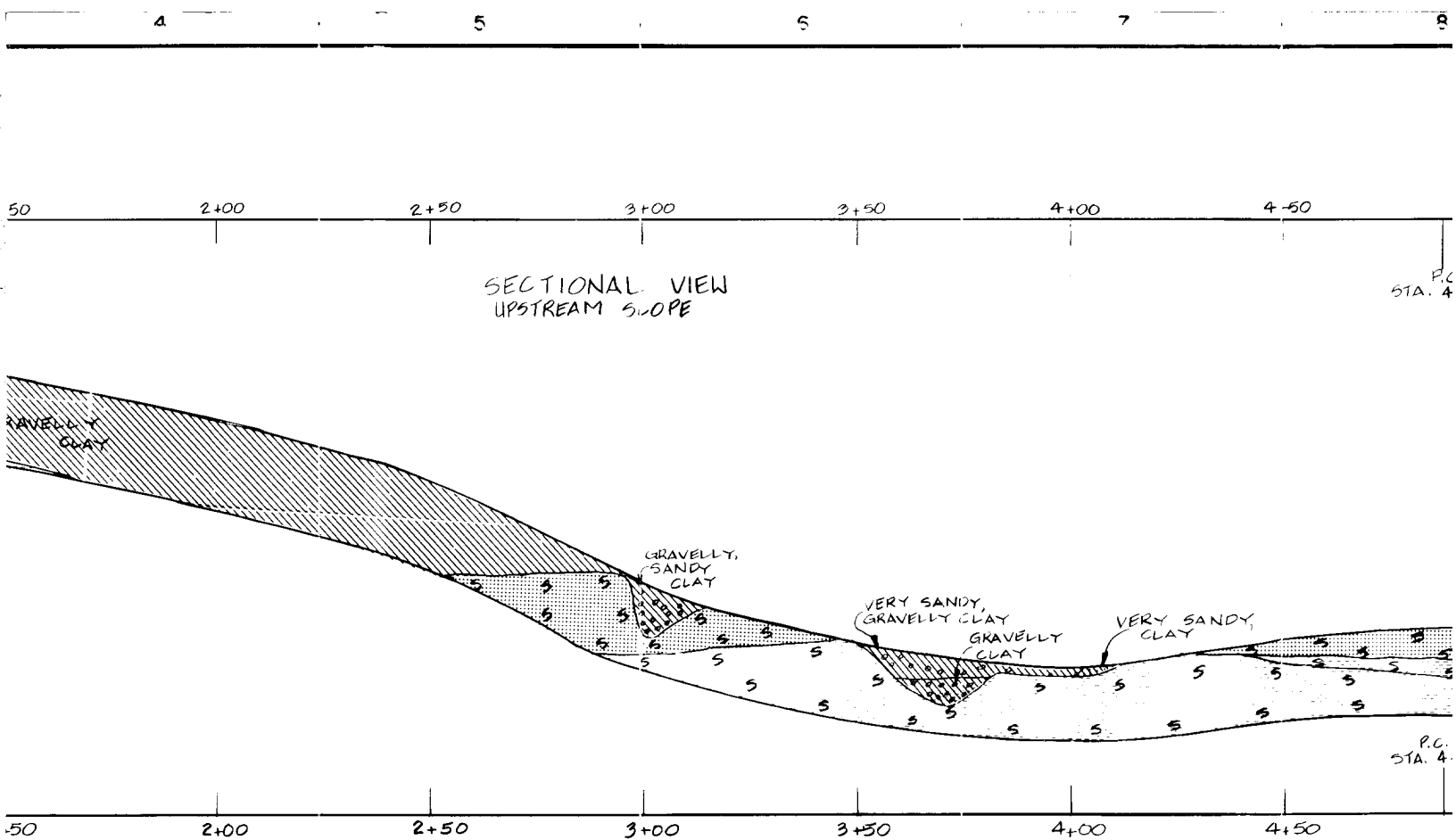
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C



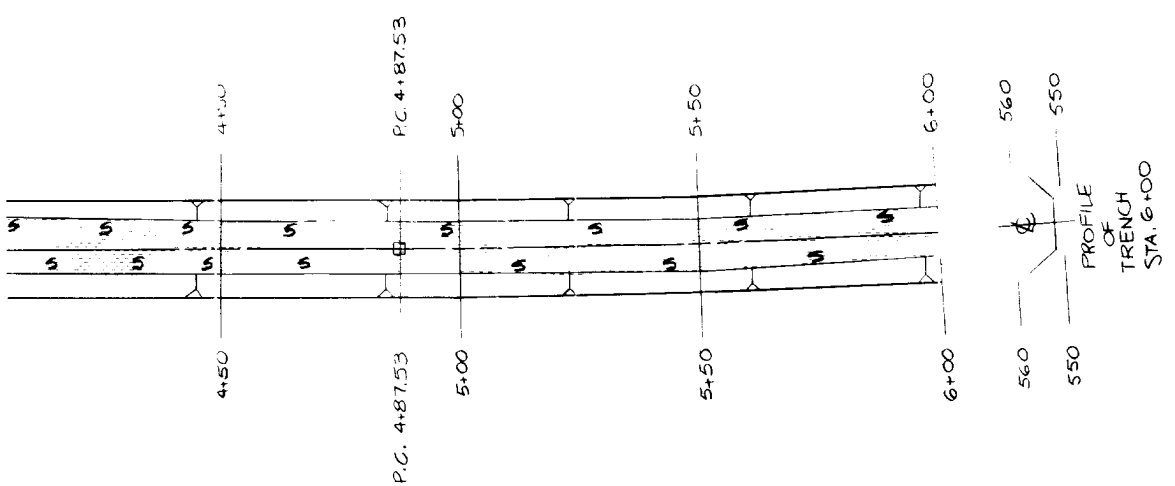
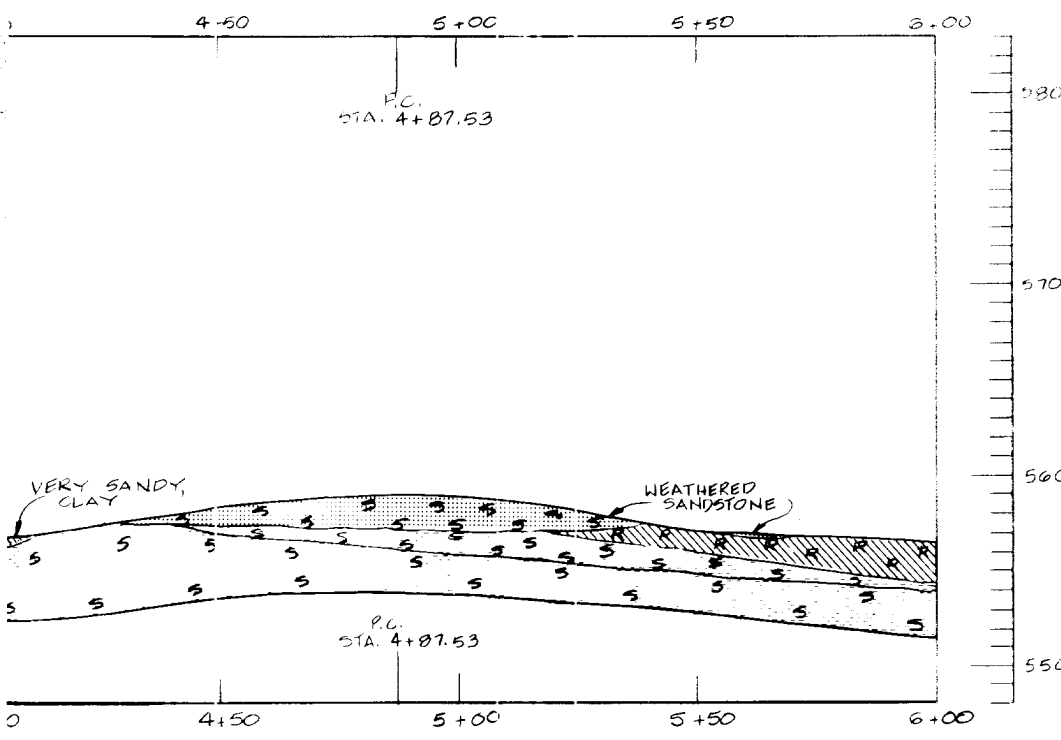
B

A



SYMBOLS:

- CLAY, SANDY CLAY, GRAVELLY CLAY, SHALY CLAY (ALL)
- RESIDUAL CLAY (VERY HIGHLY WEATHERED SHALE)
- SAND, CLAYEY SAND, GRAVELLY SAND
- GRAVEL, SANDY GRAVEL, CLAYEY GRAVEL
- SANDSTONE, UNWEATHERED
- SANDSTONE, WEATHERED
- SHALE, UNWEATHERED
- SHALE, WEATHERED
- SHALE, HIGHLY WEATHERED, OF CLAY CONSISTENCY IN PART OR WHOLLY



CLAY, GRAVELLY CLAY, SHALY CLAY (ALLUVIUM)
 (VERY HIGHLY WEATHERED SHALE)
 SAND, GRAVELLY SAND
 GRAVEL, CLAYEY GRAVEL
 WEATHERED
 WEATHERED
 WEATHERED
 WEATHERED, OF CLAY CONSISTENCY
 OR WHOLLY

SYN. LOG NO.		ACTION		DATE		DESCRIPTION OF REVISION	
DESIGNED BY:		U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS					
DRAWN BY:		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 0+00.00 TO STA. 6+00.00					
REVIEWED BY:		ROBERT BEHM					
SUBMITTED BY:		INVITATION NO.		DATE:		SEQUENCE NO.	
ENGINEER:		CONTRACT NO.		DRAWING NUMBER		SHEET NO. OF	

1

F

E

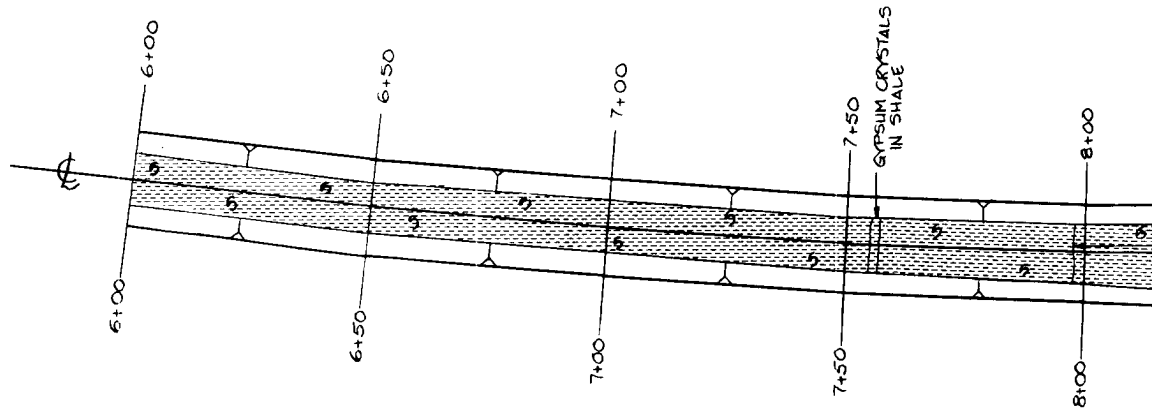
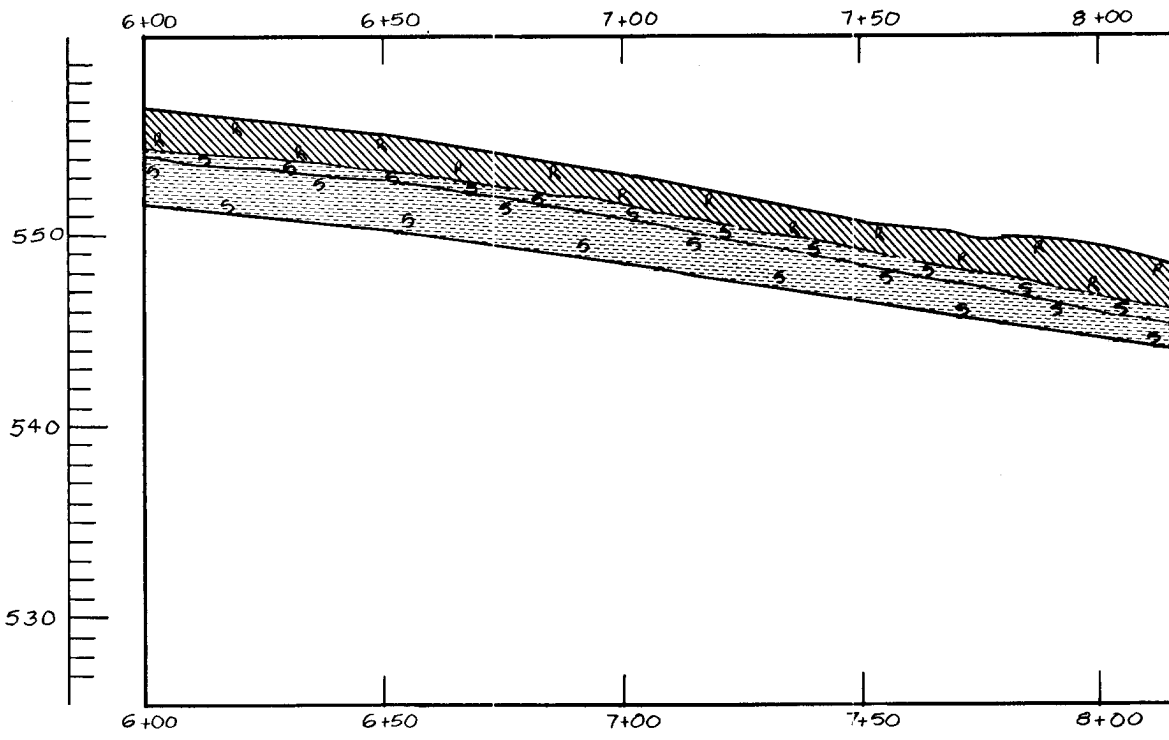
D

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B

A

ELEVATION



POLYTRAC 833



CONTRACT NO.

①

F

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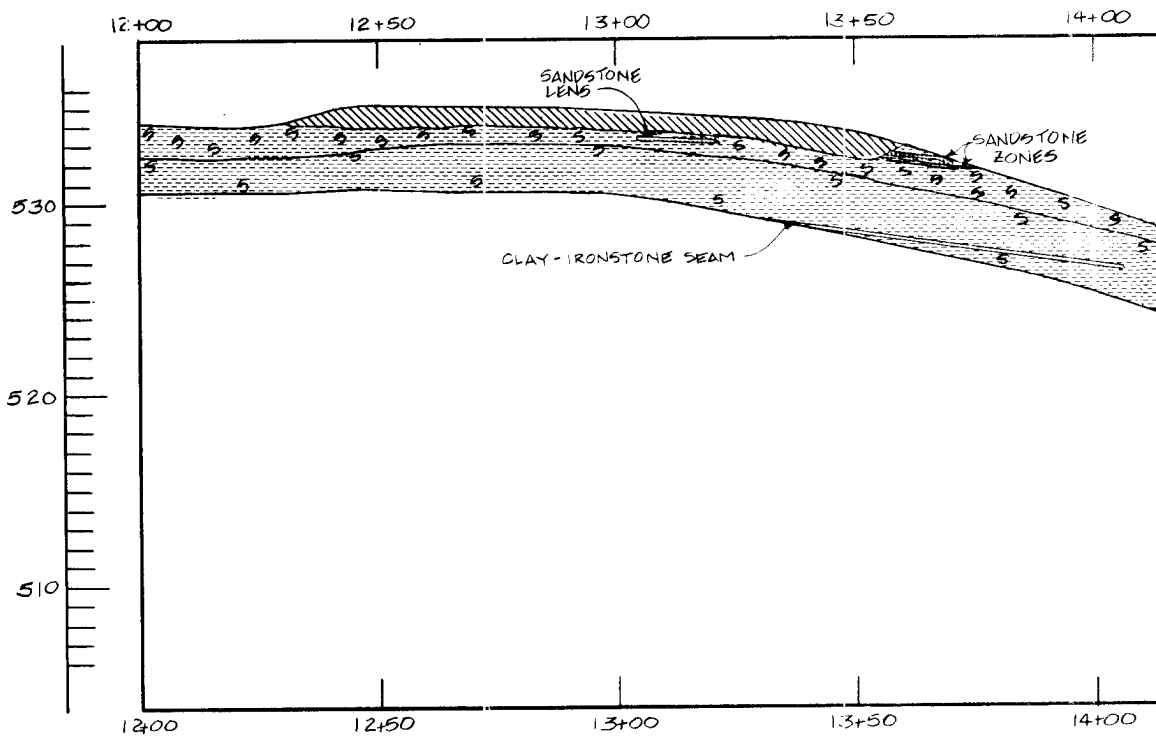
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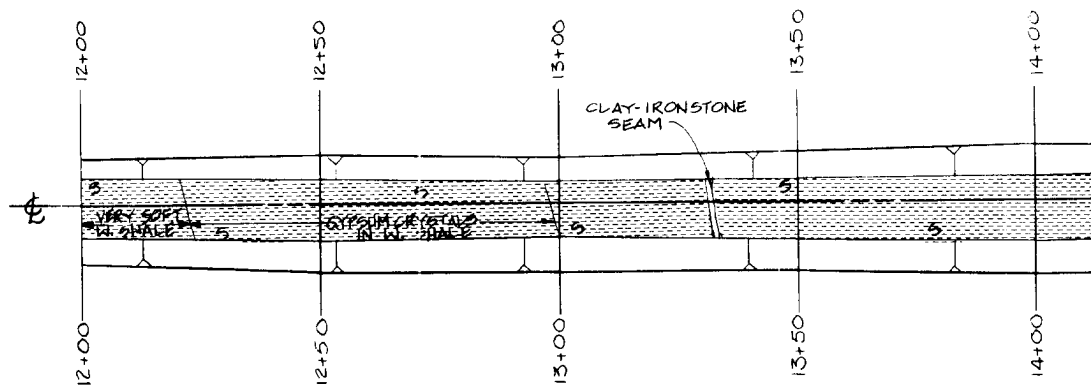
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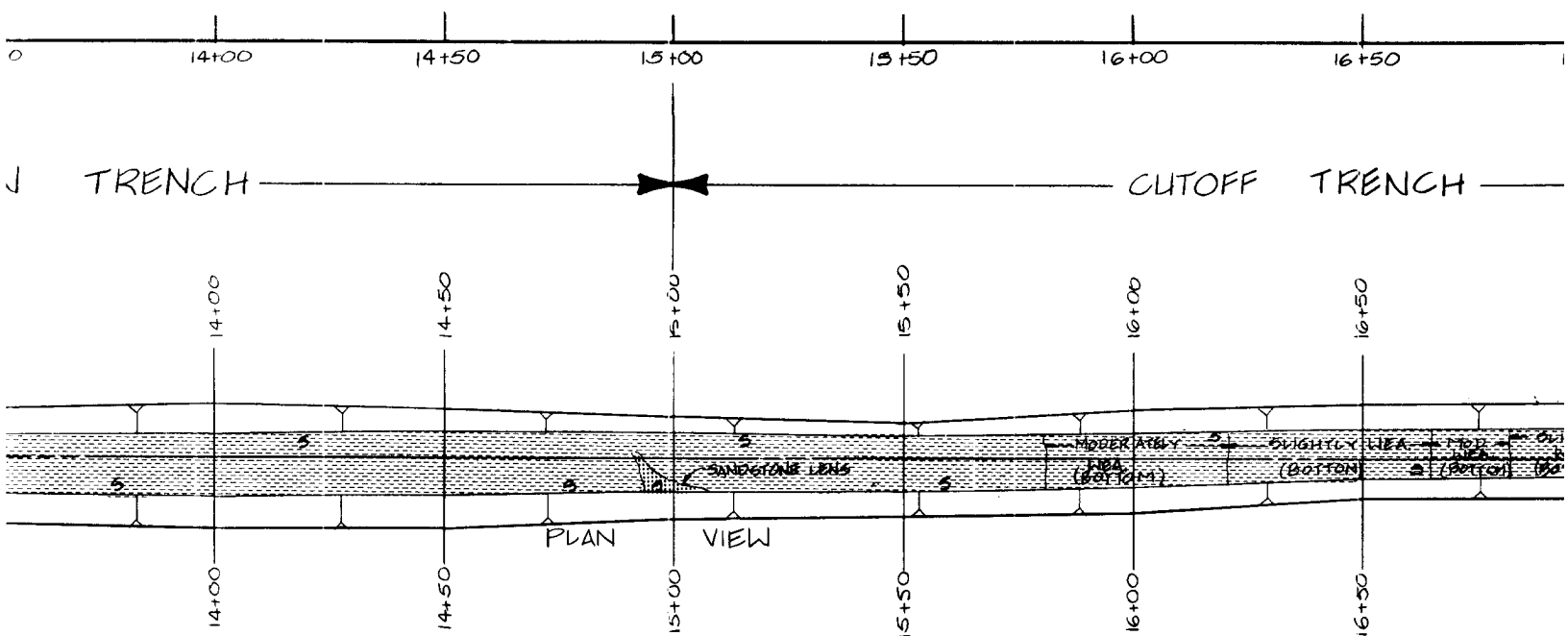
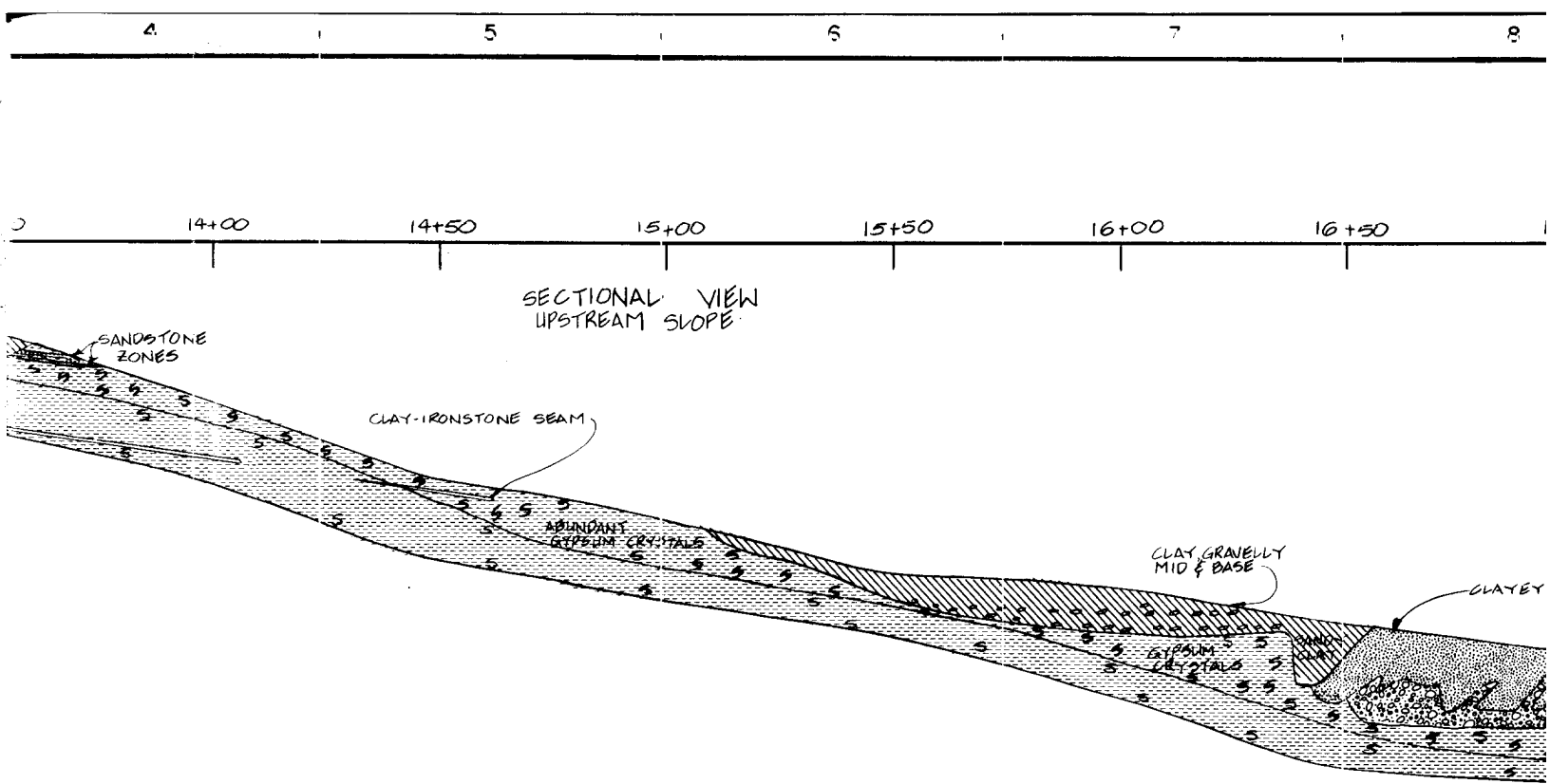
A

ELEVATION



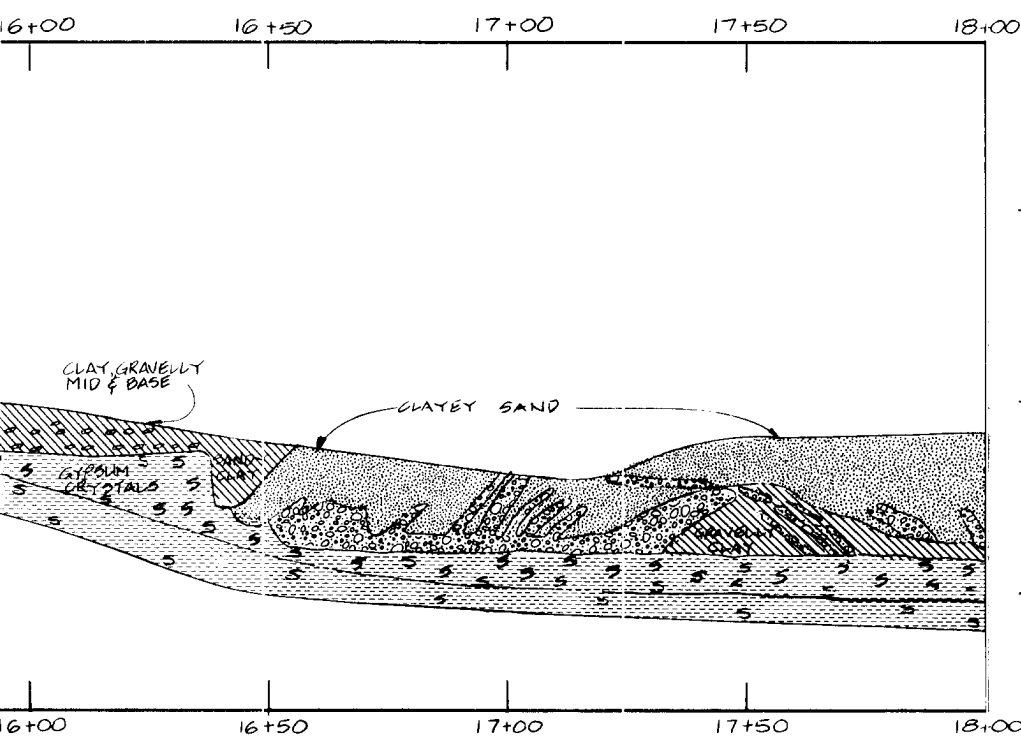
INSPECTION TRENCH -



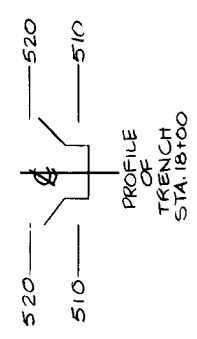
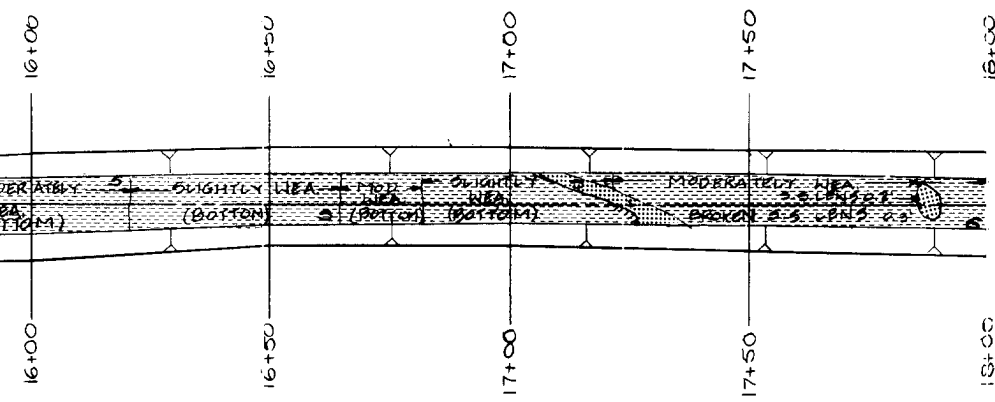


NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.



- CUTOFF TRENCH —————→



OR MAP SYMBOLS, REFER TO PLATE 15.

SYMBOL NO.		ACTION		DATE		DESCRIPTION OF REVISION	
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS							
DESIGNED BY: G. RUDE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT CUTOFF AND INSPECTION TRENCHES GEOLOGY AND EXCAVATION STA. 12+00.00 TO STA. 18+00.00					
DRAWN BY: C. KIRBY							
REVIEWED BY: R. BEHM							
SUBMITTED BY: ROBERT BEHM							
ENGINEER:		INVITATION NO.		DATE:			
		CONTRACT NO.		SHEET NO.		SEQUENCE NO.	
		DRAWING NUMBER		OF			

①

F

E

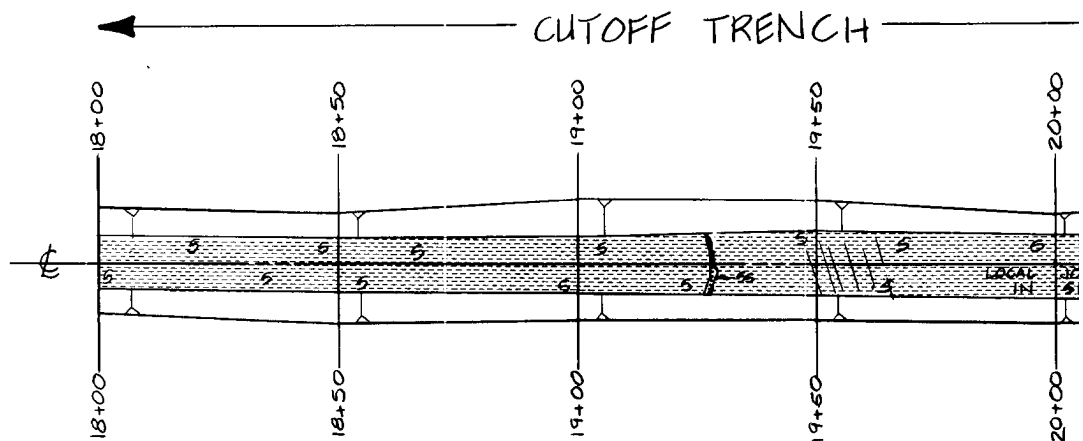
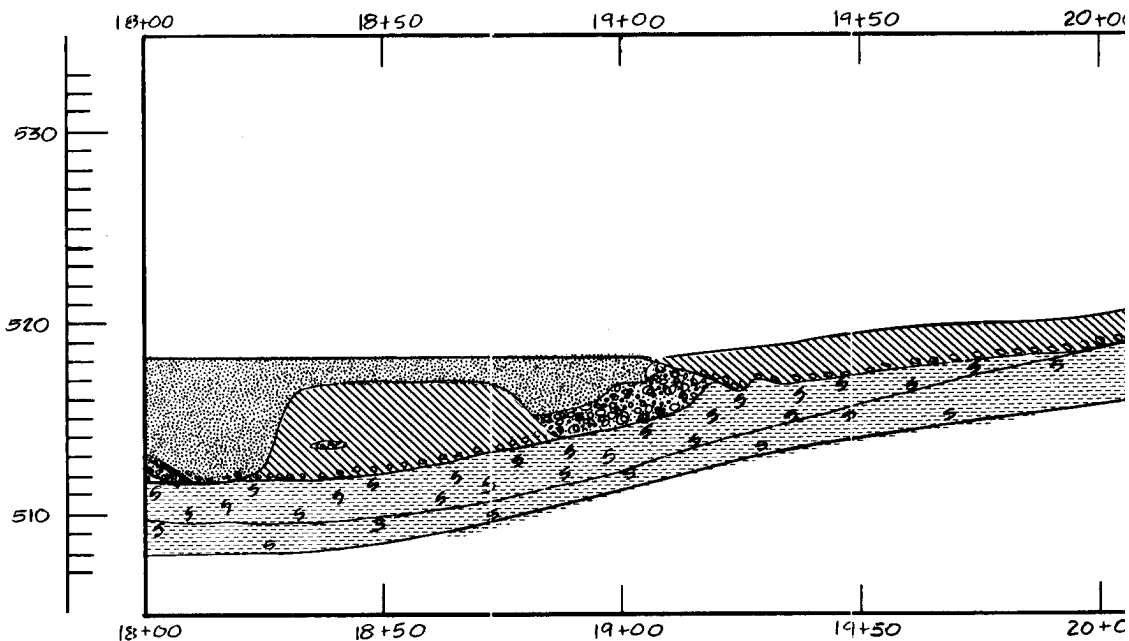
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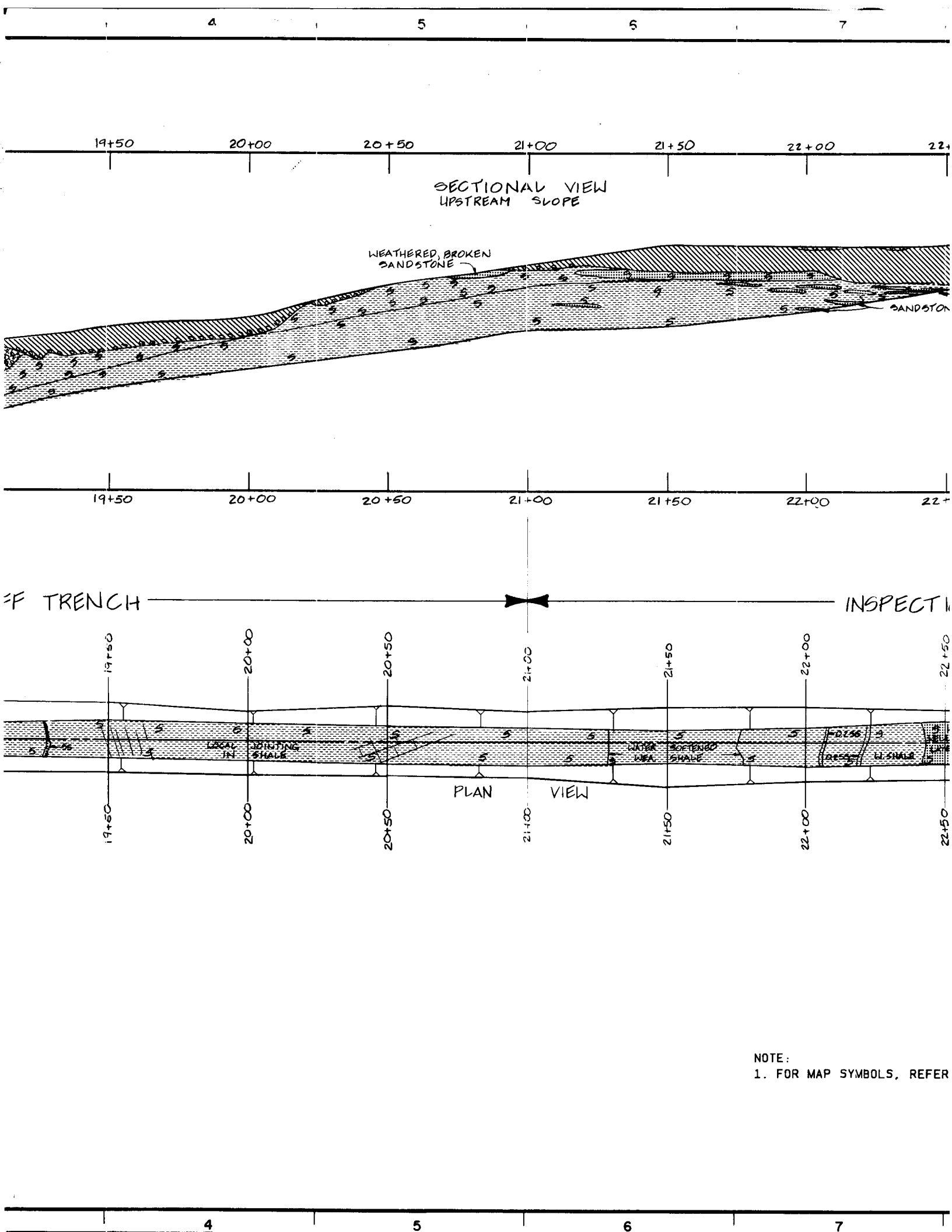
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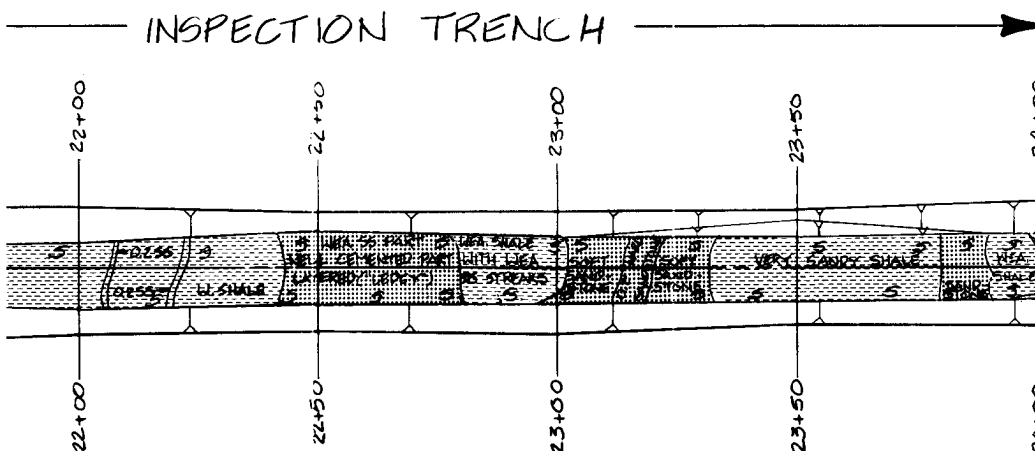
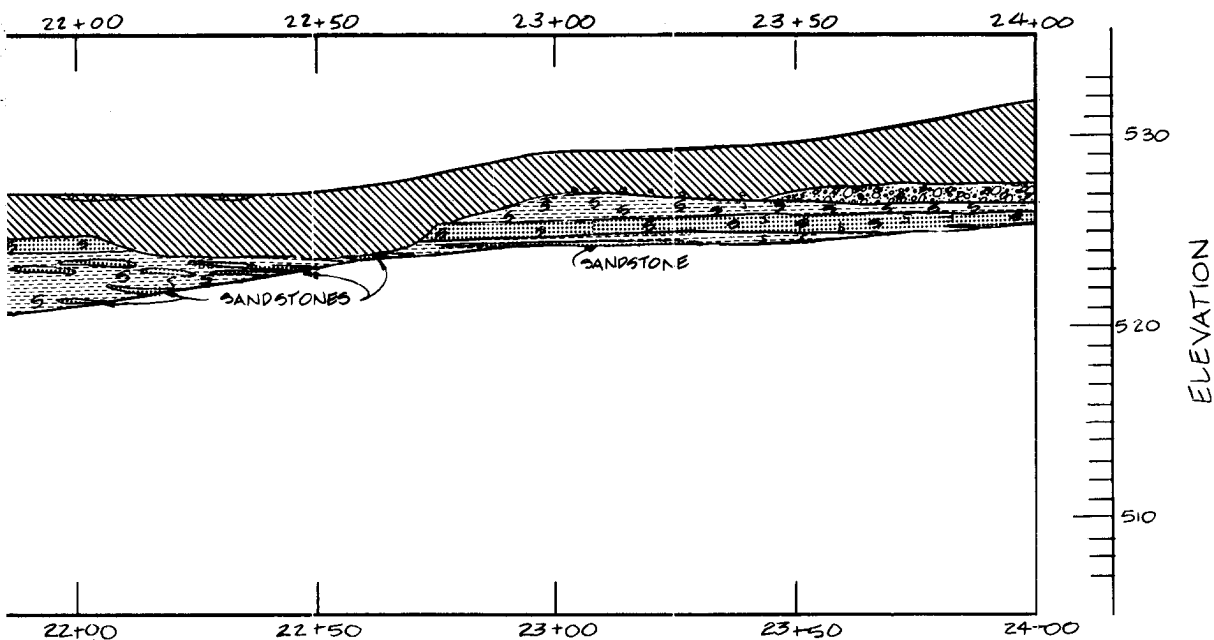
B

A

ELEVATION







NOTE:
FOR MAP SYMBOLS, REFER TO PLATE 16.

SYMBOL NO.		ACTION		DATE		DESCRIPTION OF REVISION	
						U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY: G. RUEPE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT CUTOFF AND INSPECTION TRENCHES GEOLOGY AND EXCAVATION STA. 18+00.00 TO STA. 24+00.00					
DRAWN BY: C. KIRBY							
REVIEWED BY: R. BEHM							
SUBMITTED BY: ROBERT BEHM							
ENGINEER:		INVITATION NO.		DATE:		SEQUENCE NO.	
		CONTRACT NO.		SHEET NO.		OF	
		DRAWING NUMBER					

①

F

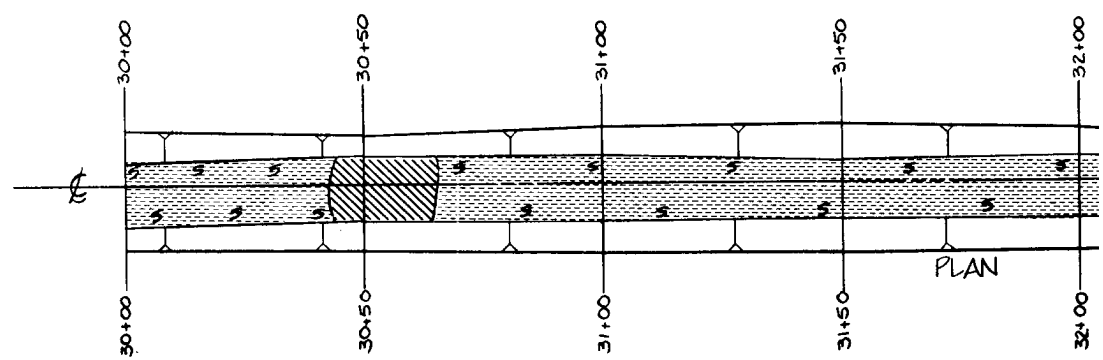
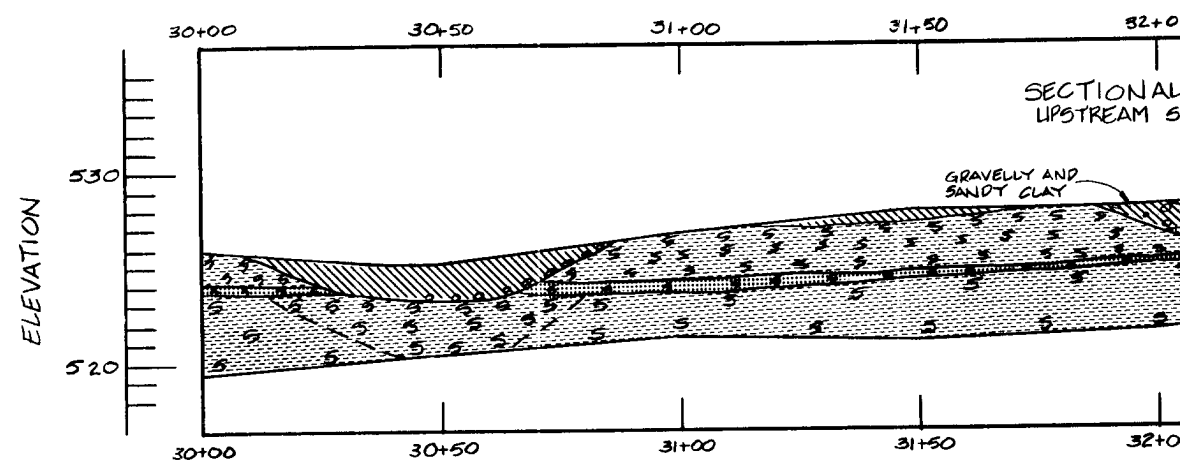
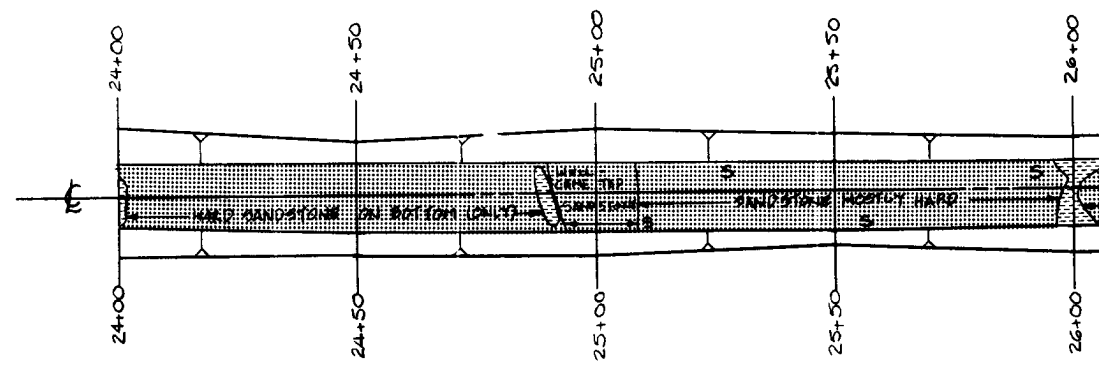
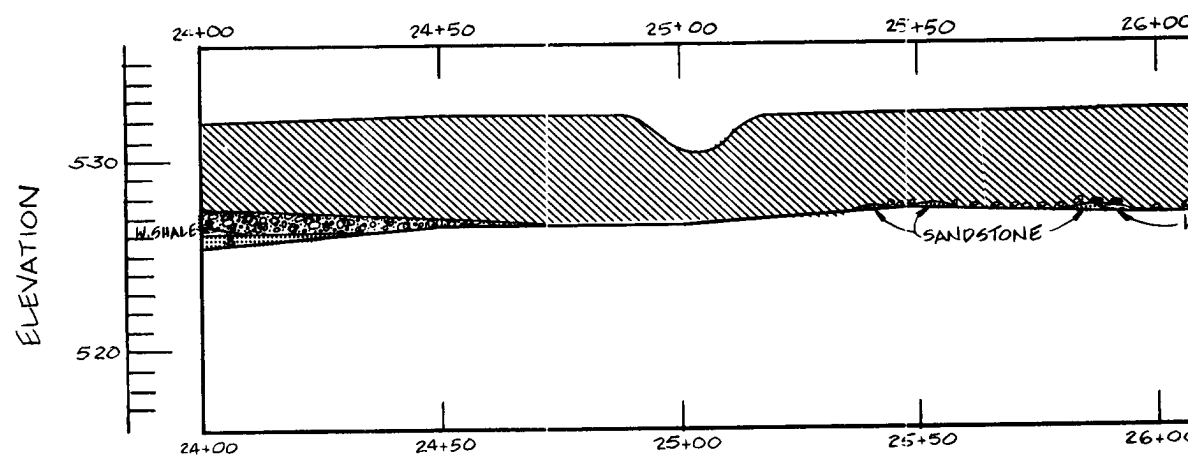
E

D

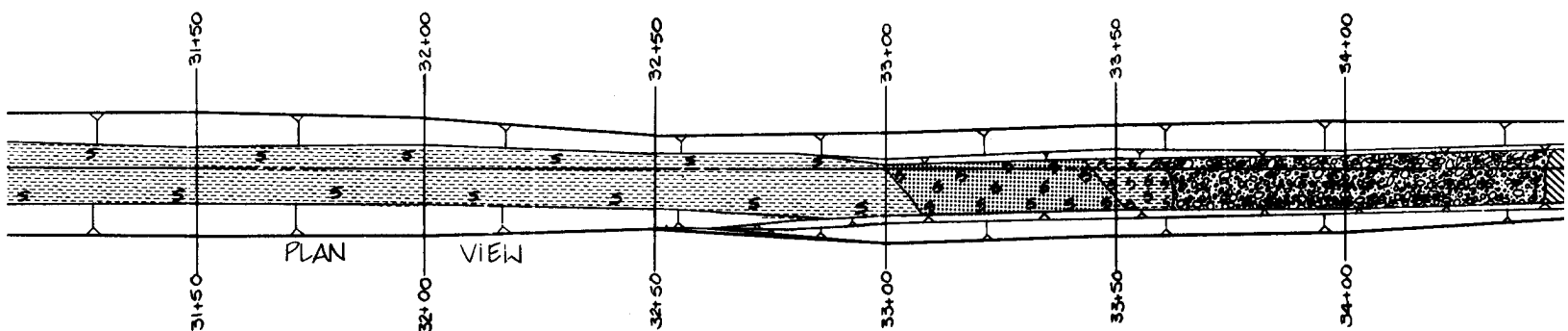
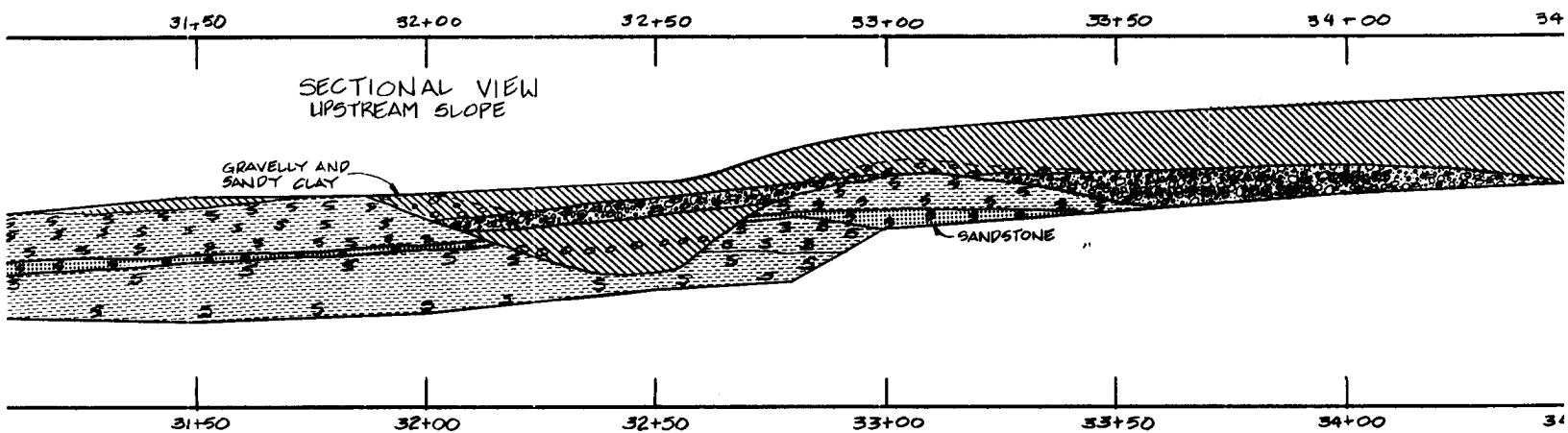
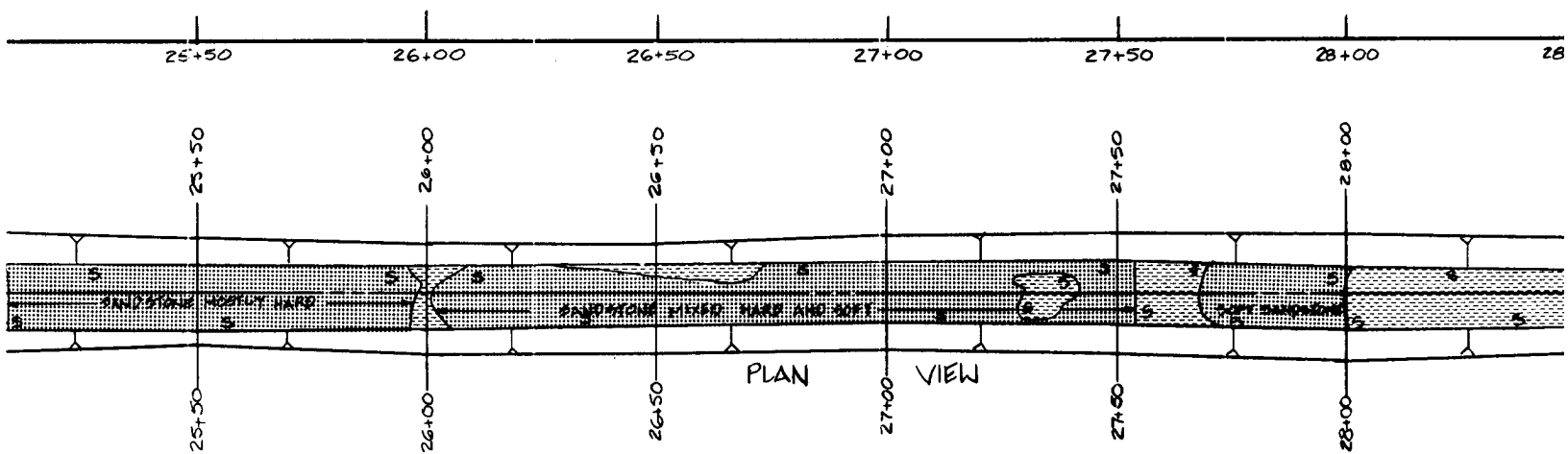
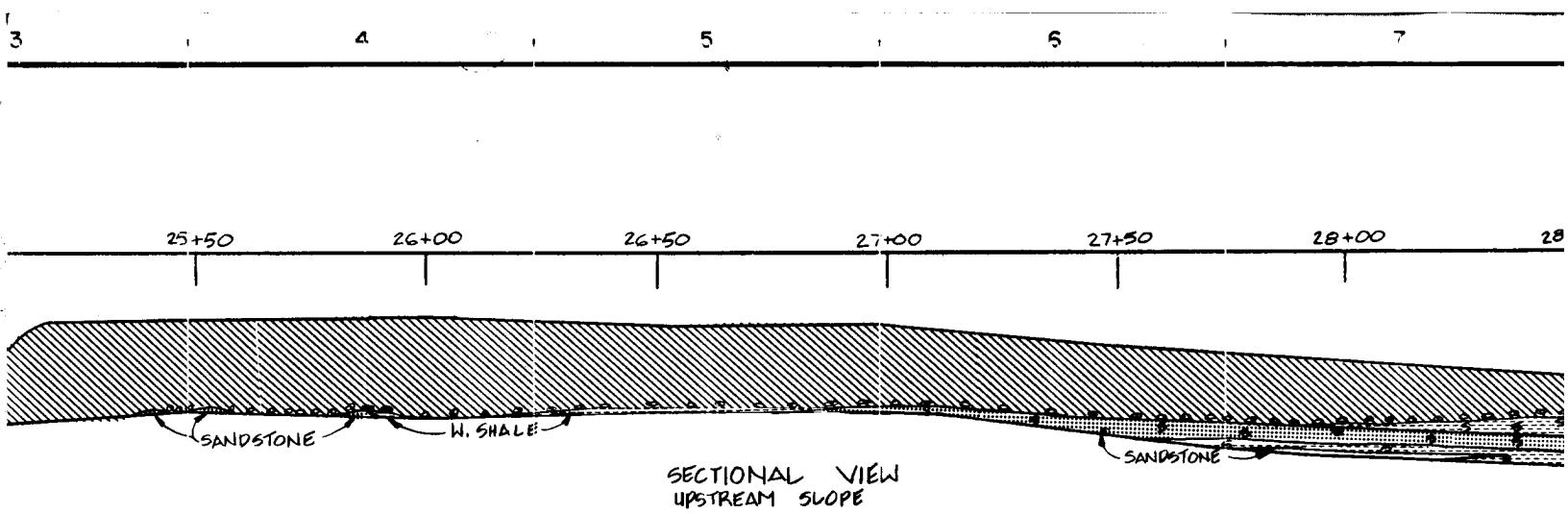
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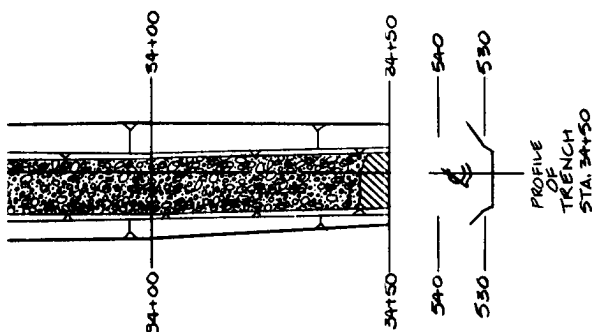
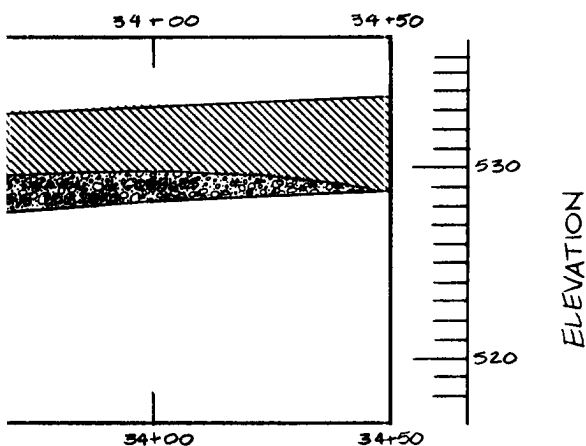
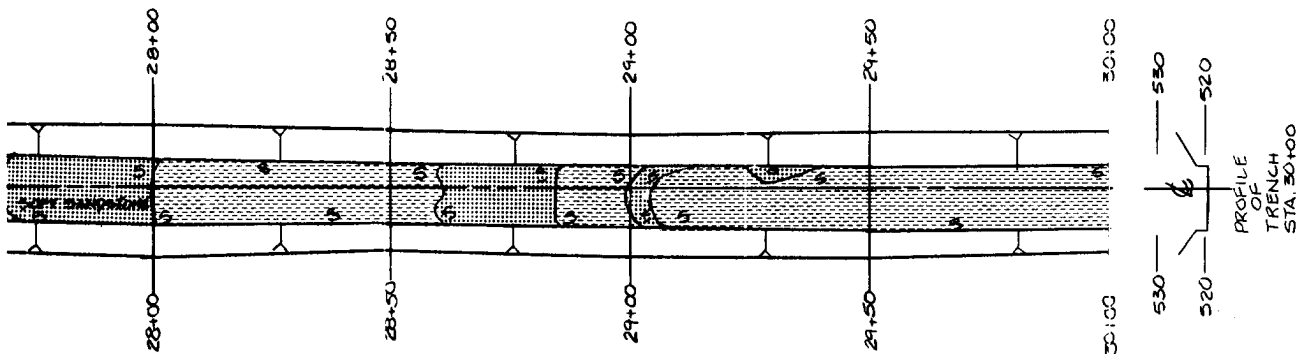
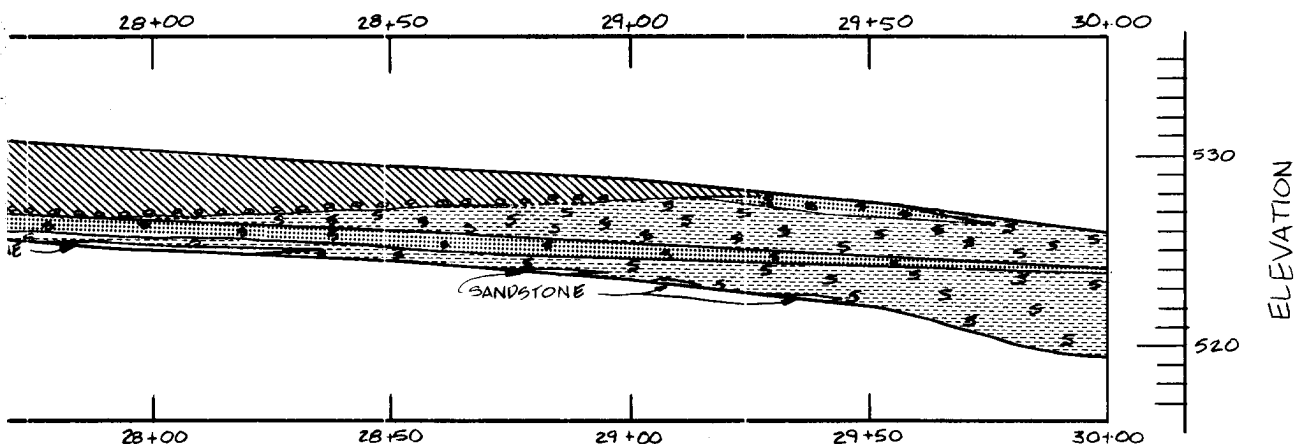
B

A



100 FEET





NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION

DESIGNED BY: <u>G. R. RICE</u>	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 24+00.00 TO STA. 34+50.00
DRAWN BY: <u>C. KIRBY</u>	
REVIEWED BY: <u>R. BEHM</u>	
SUBMITTED BY: <u>ROBERT BEHM</u>	
ENGINEER:	INVITATION NO. _____ DATE: _____ CONTRACT NO. _____ DRAWING NUMBER _____ SHEET NO. _____ OF _____ SEQUENC. NO. _____

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

F

E

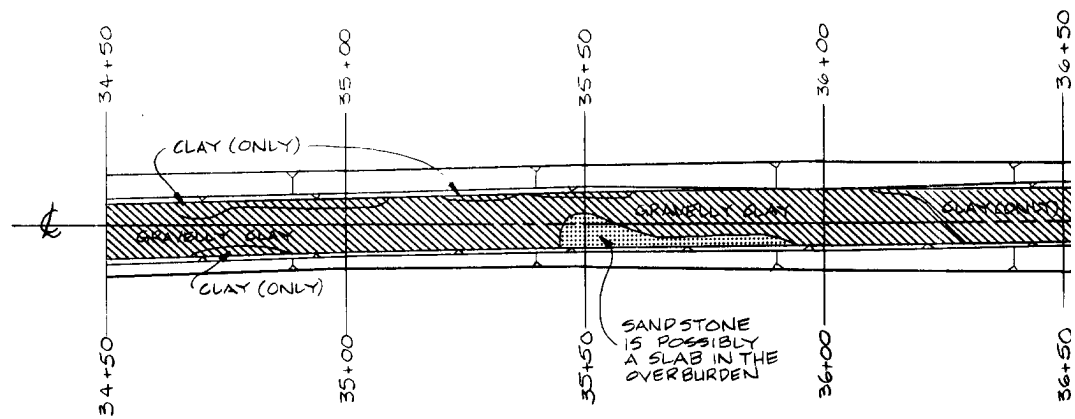
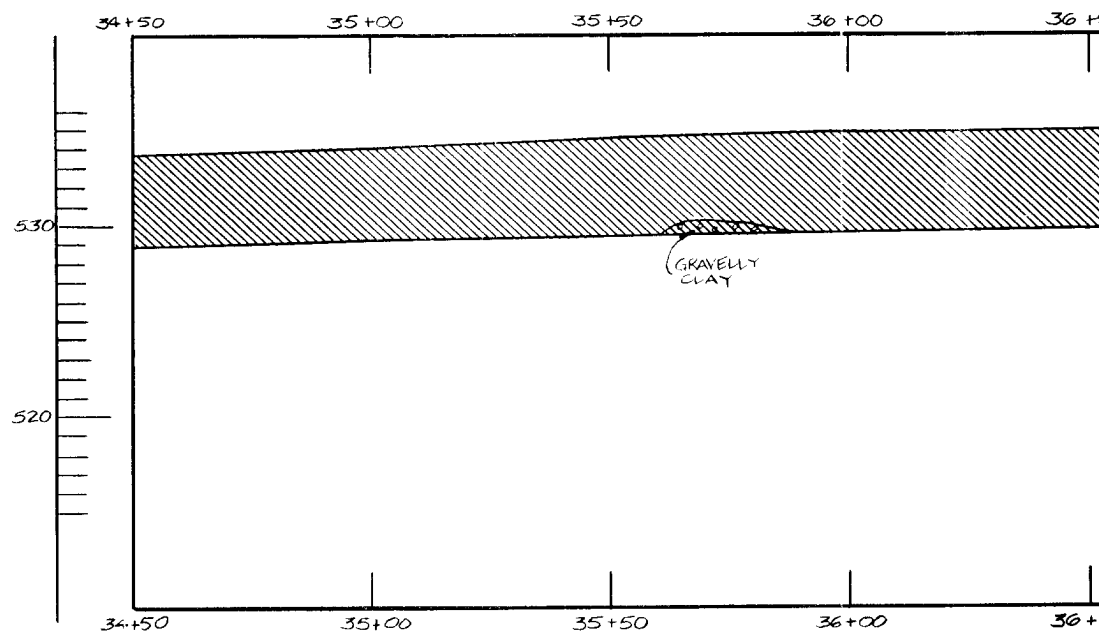
D

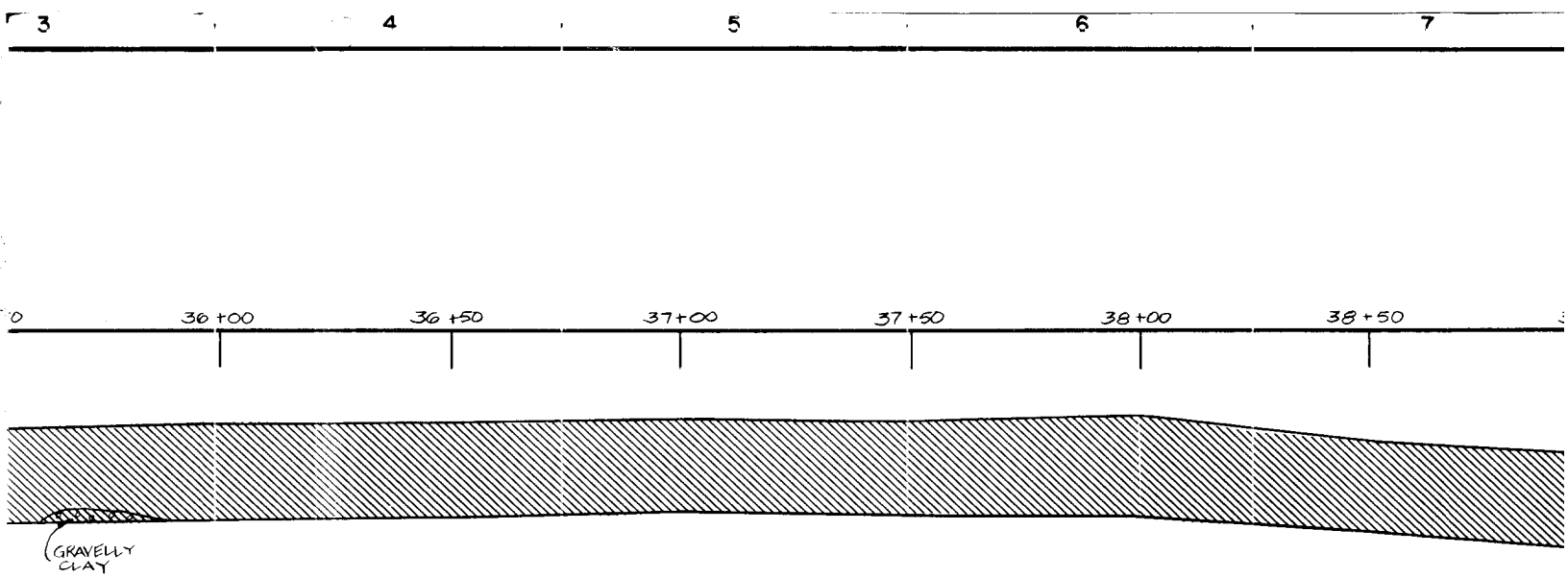
B

A

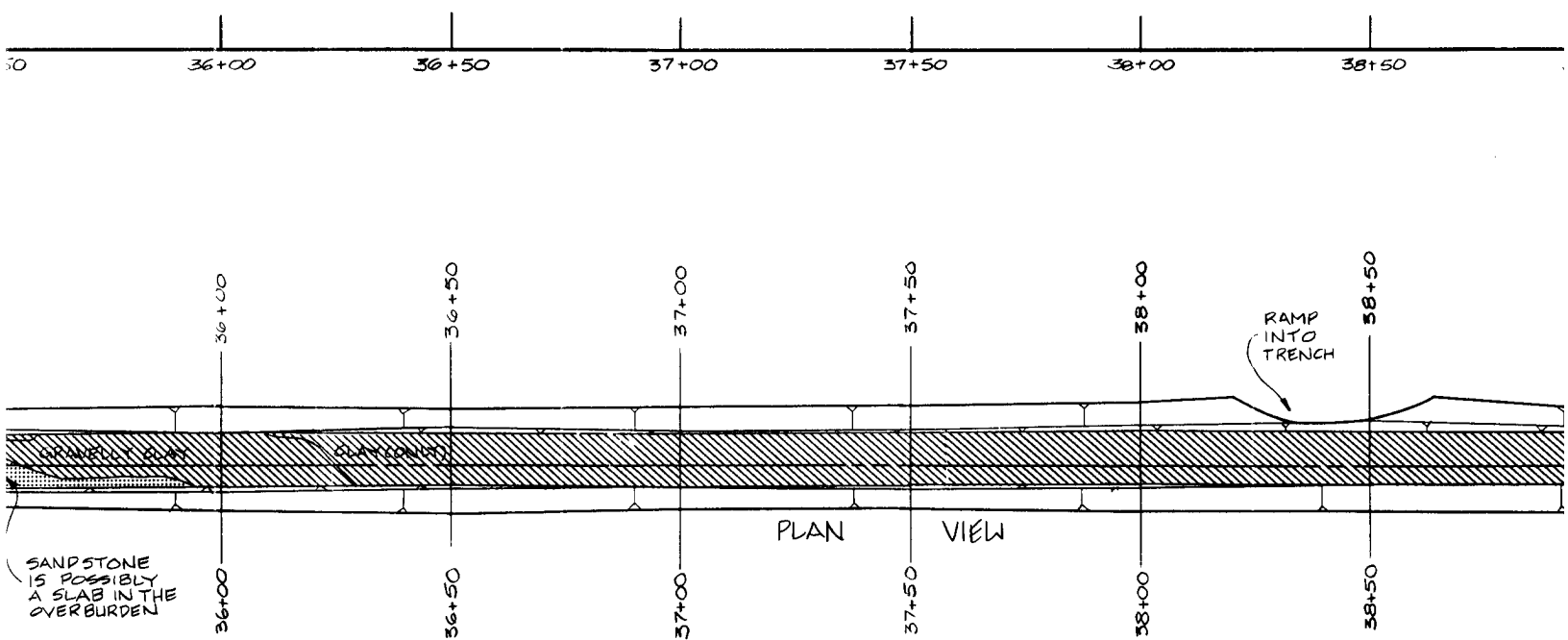
2 POLYTRACE 833

ELEVATION





SECTIONAL VIEW
UPSTREAM SLOPE



PLAN VIEW

NOTE:
1. FOR MAP SY

1

2

3

4

F

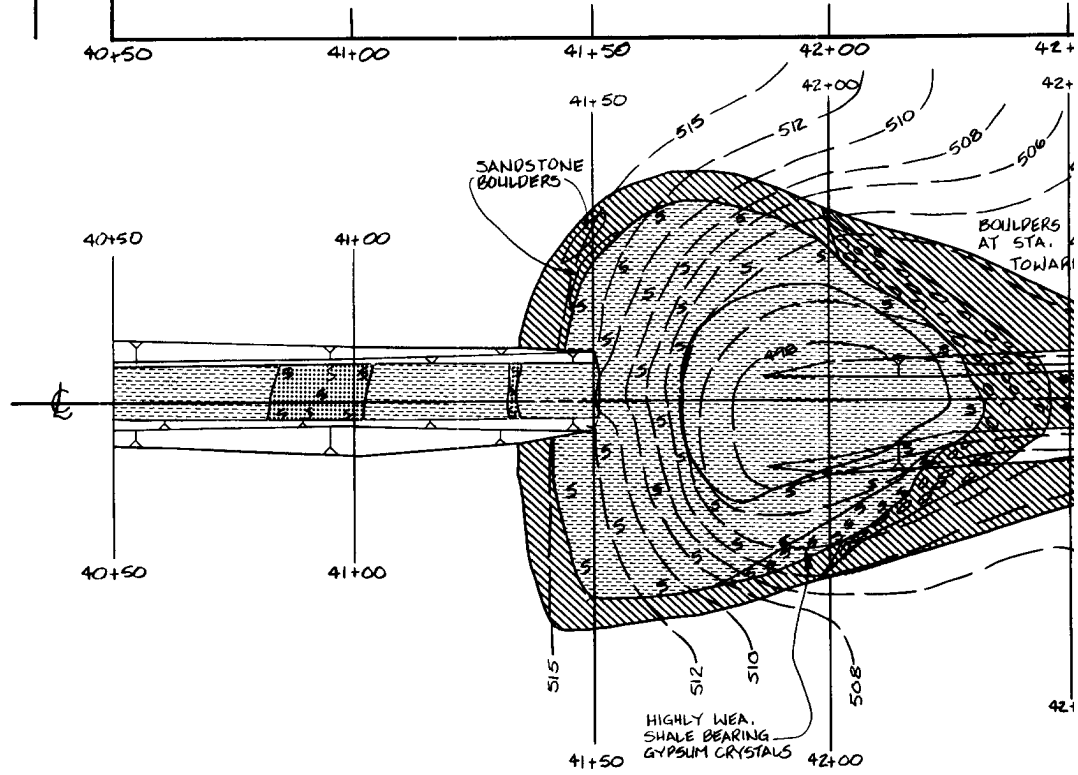
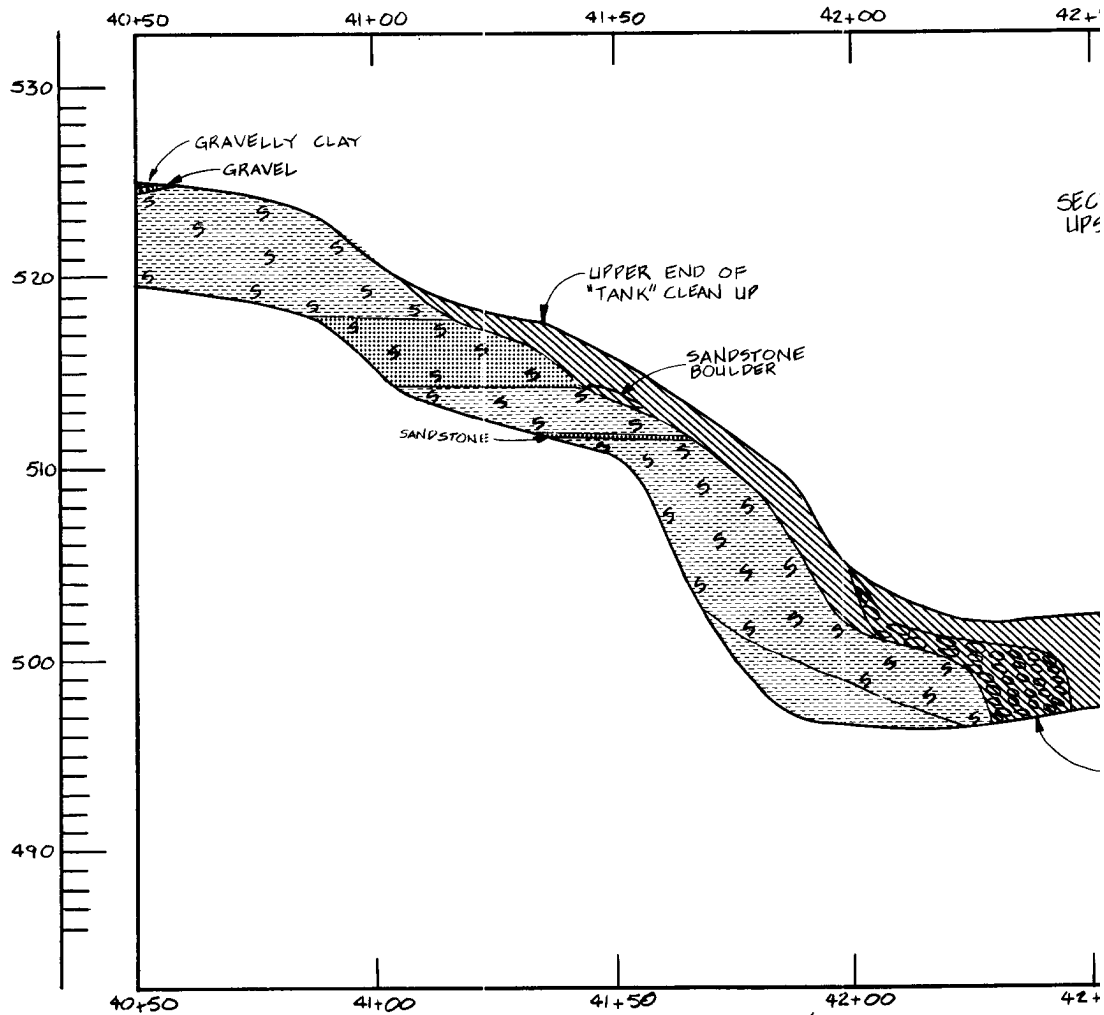
E

D

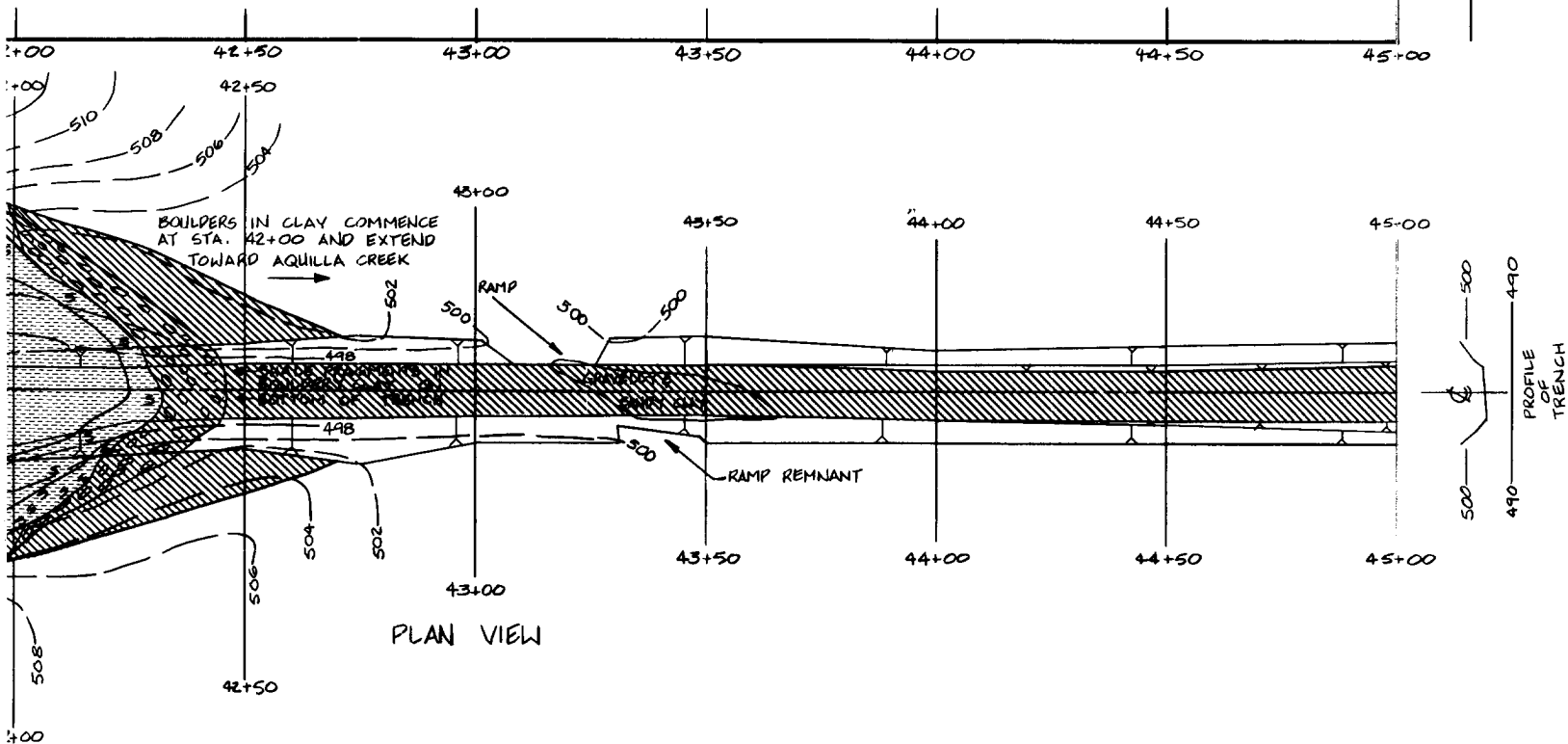
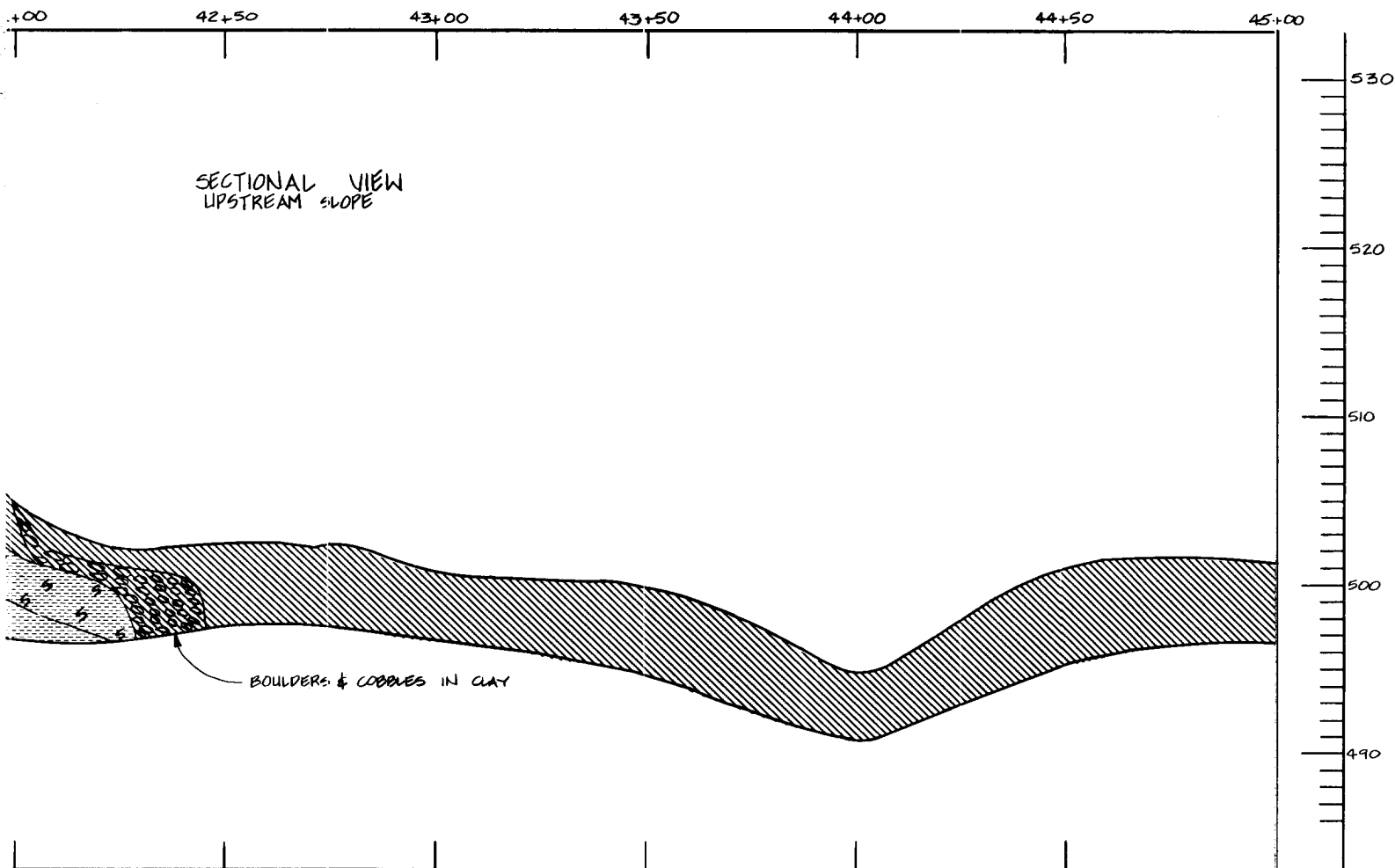
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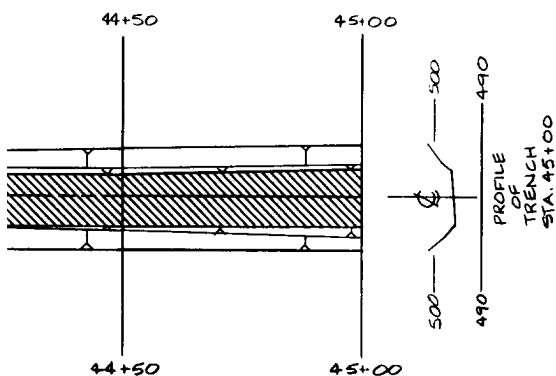
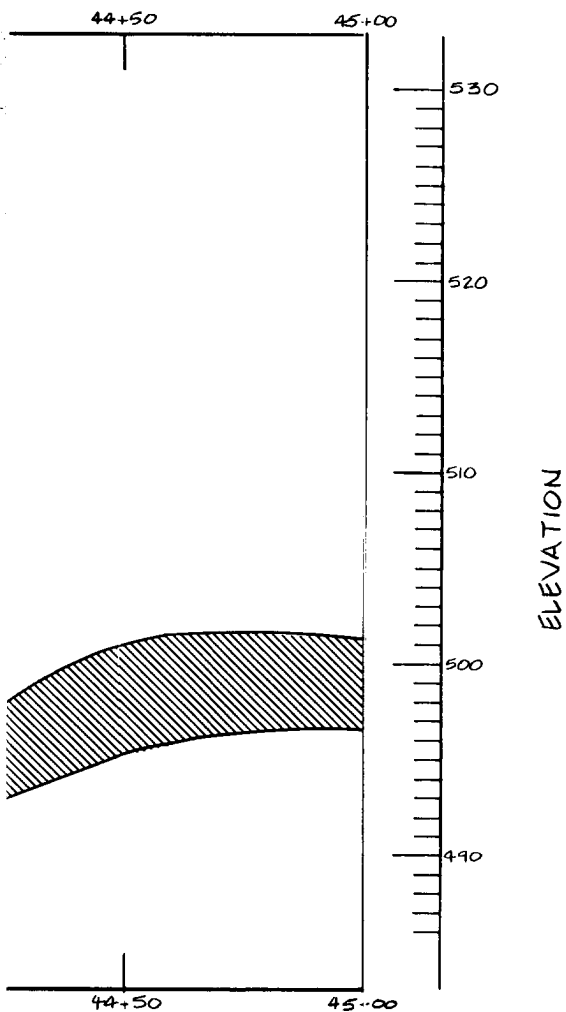
A

ELEVATION



PLANETRAFF 683





NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYM. NO.	ACTION	DATE	DESCRIPTION OF REVISION

DESIGNED BY: G. RUEDE		U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DRAWN BY: C. KIRBY		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 40+50.00 TO STA. 45+00.00	
REVIEWED BY: -----			
SUBMITTED BY: -----			
ENGINEER: -----		INVITATION NO. -----	DATE: -----
DRAWING NUMBER -----		CONTRACT NO. -----	SHEET NO. OF -----
SEQUENCE NO. -----		CONTRACT NO. -----	

F

E

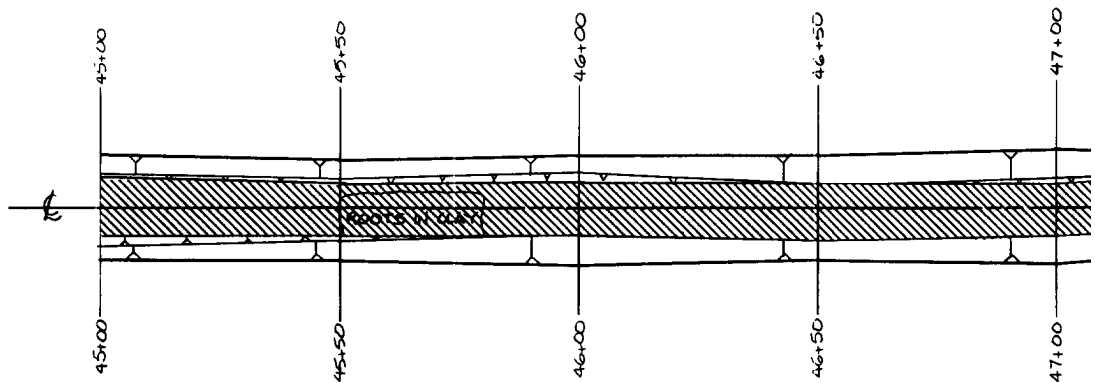
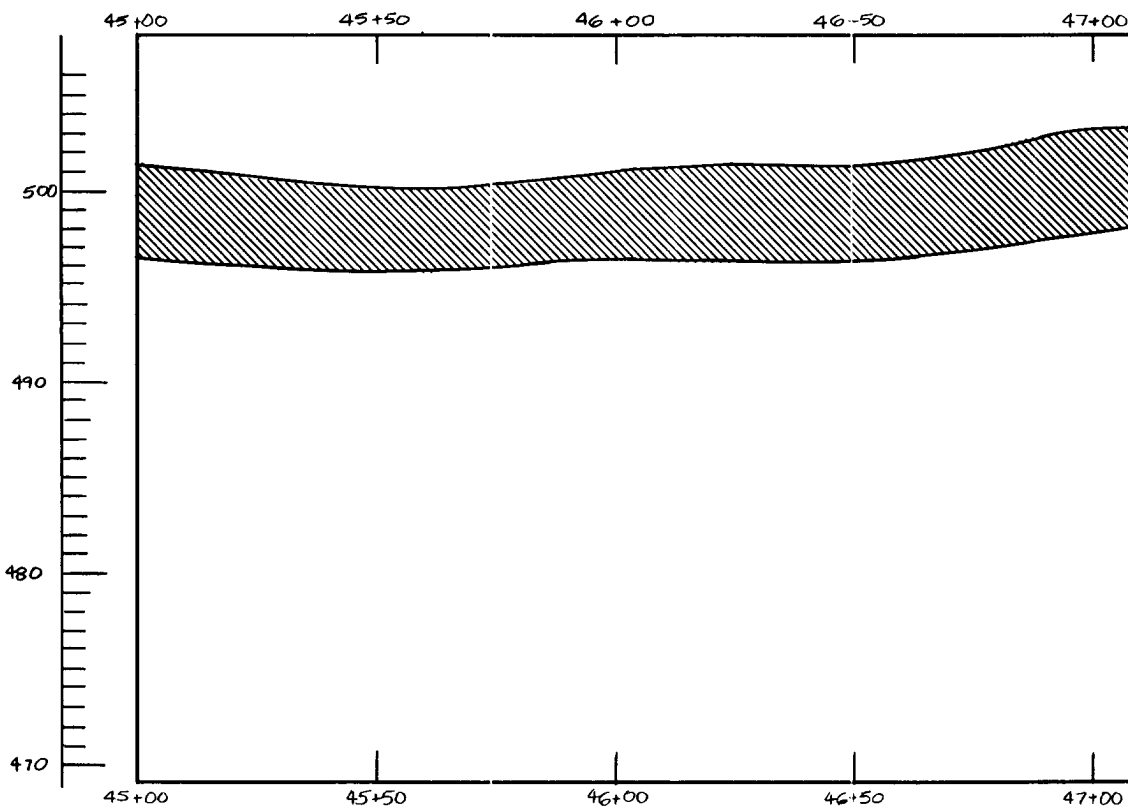
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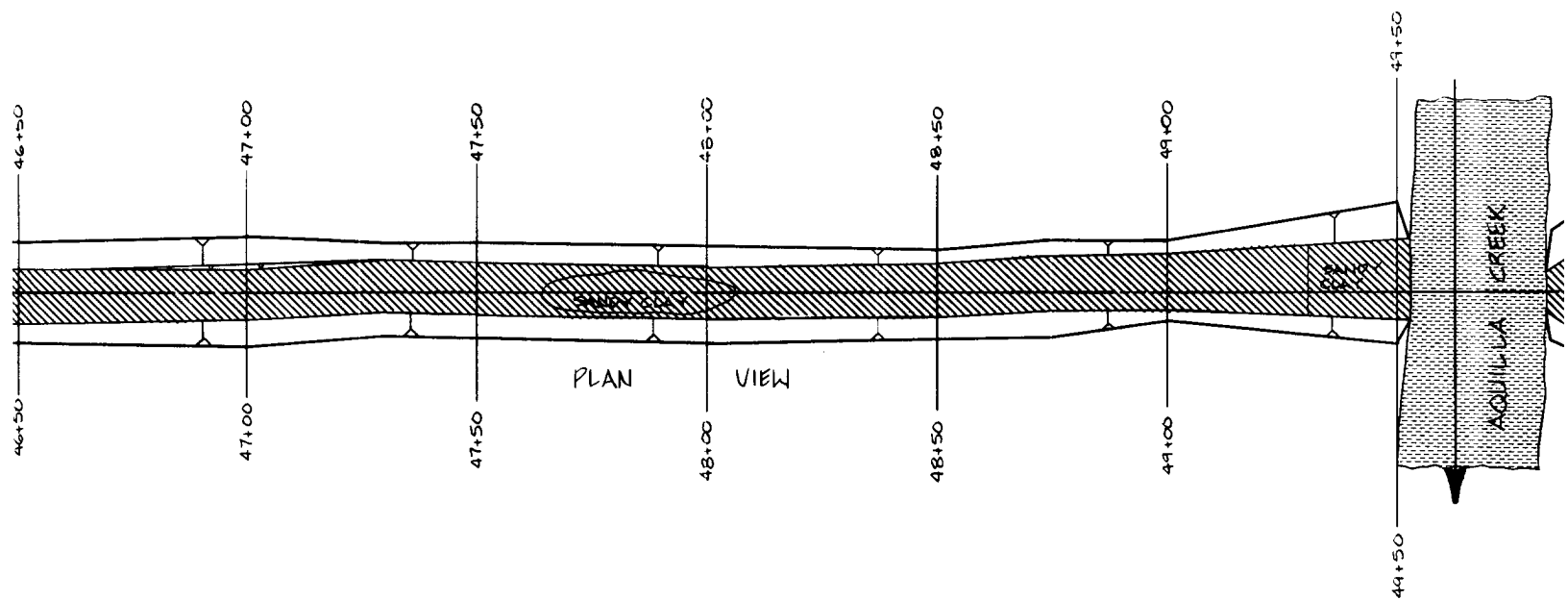
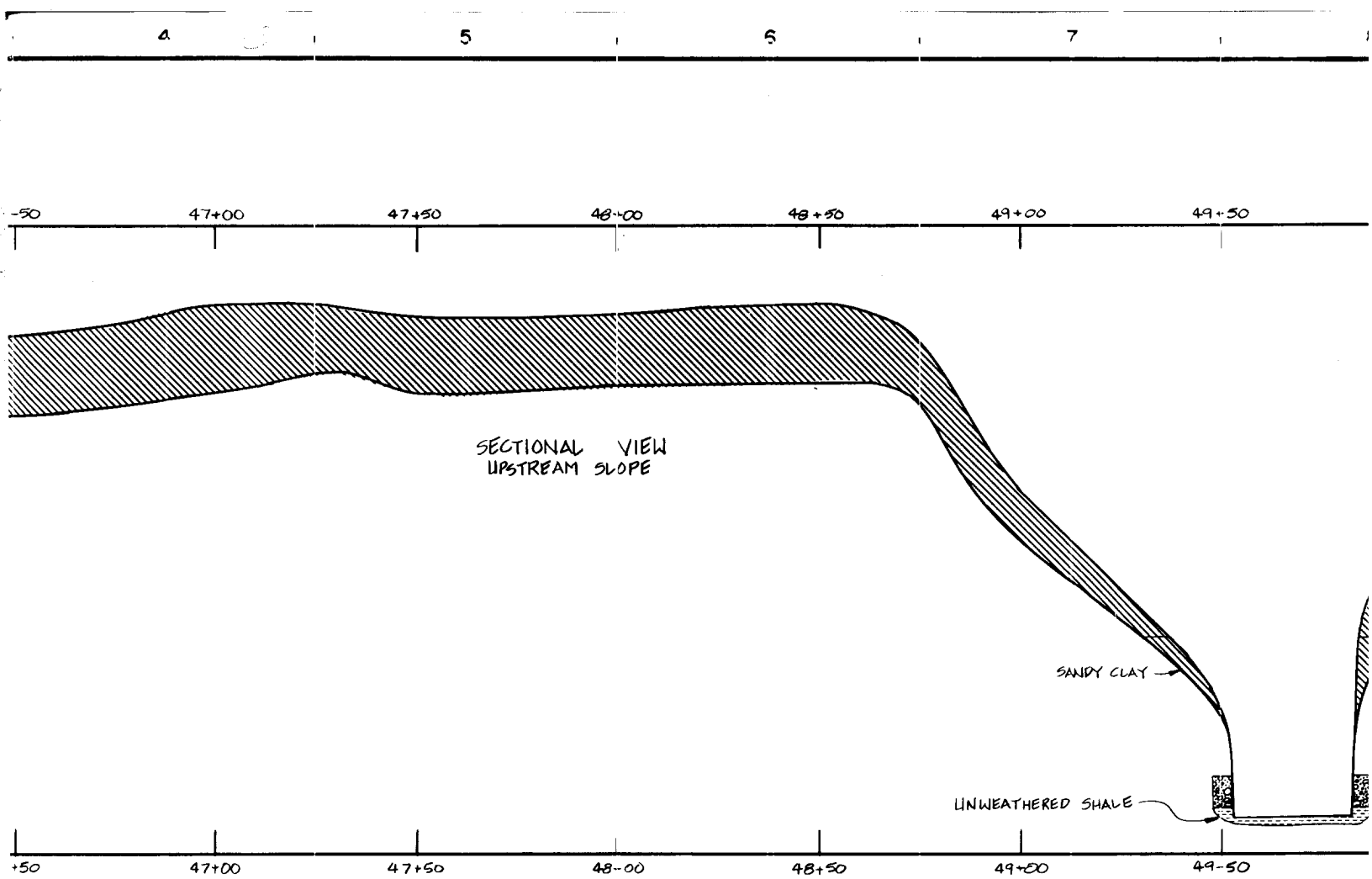
C

B

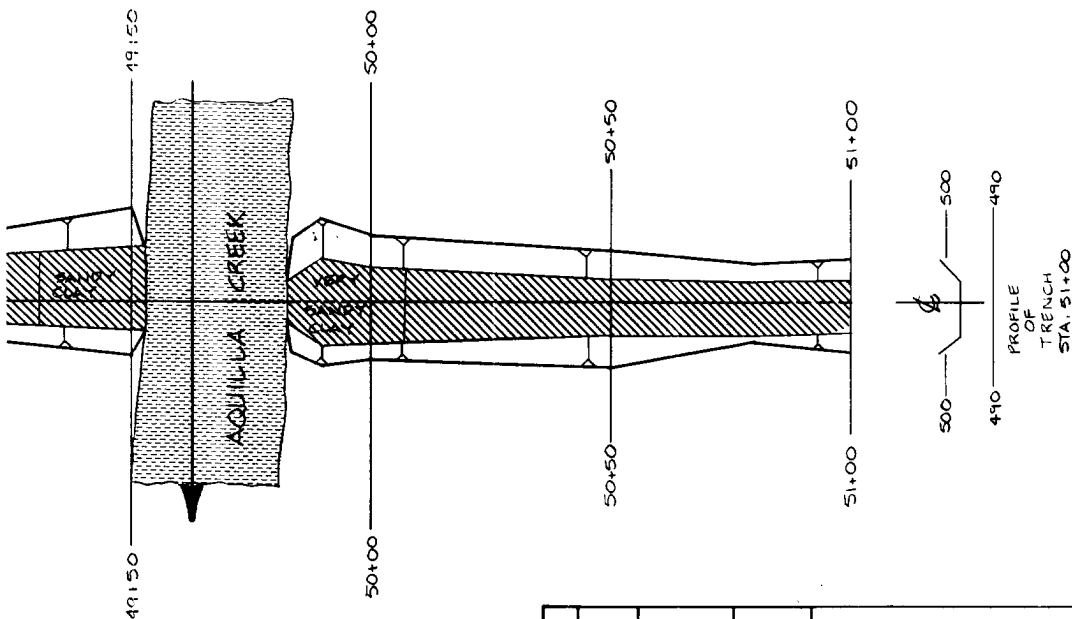
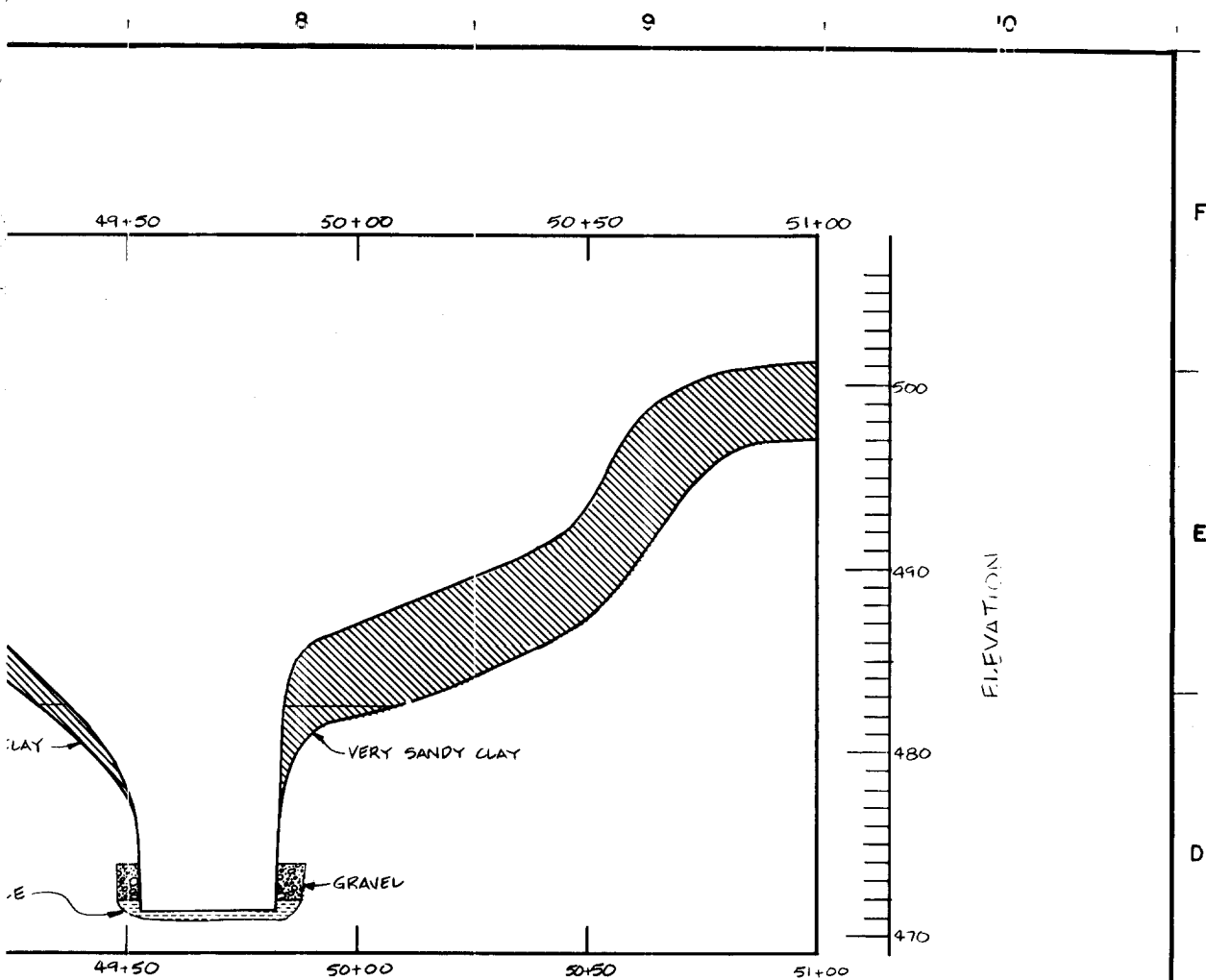
A

ELEVATION





NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE 16.



REFER TO PLATE 16.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
				U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY: G. RUEDY	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 45 + 00.00 TO STA. 51 + 00.00			
DRAWN BY: C. KIRBY				
REVIEWED BY: R. BEHM				
SUBMITTED BY: ROBERT BEHM				
ENGINEER:	INVITATION NO.	DATE:		
	CONTRACT NO.		SHEET NO.	SEQUENCE NO.
	DRAWING NUMBER		OF	

CONTRACT NO.

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 23

①

F

E

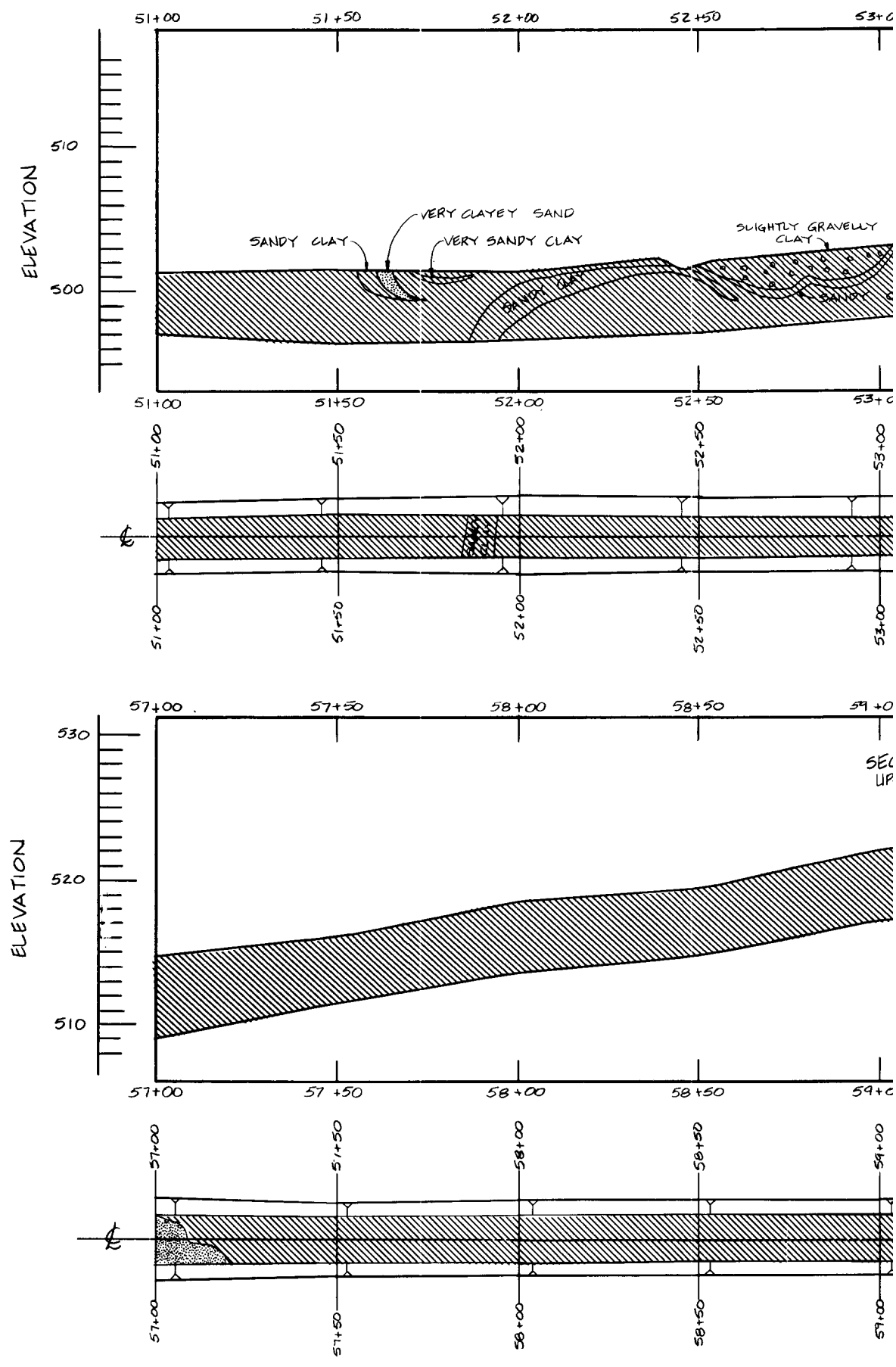
D

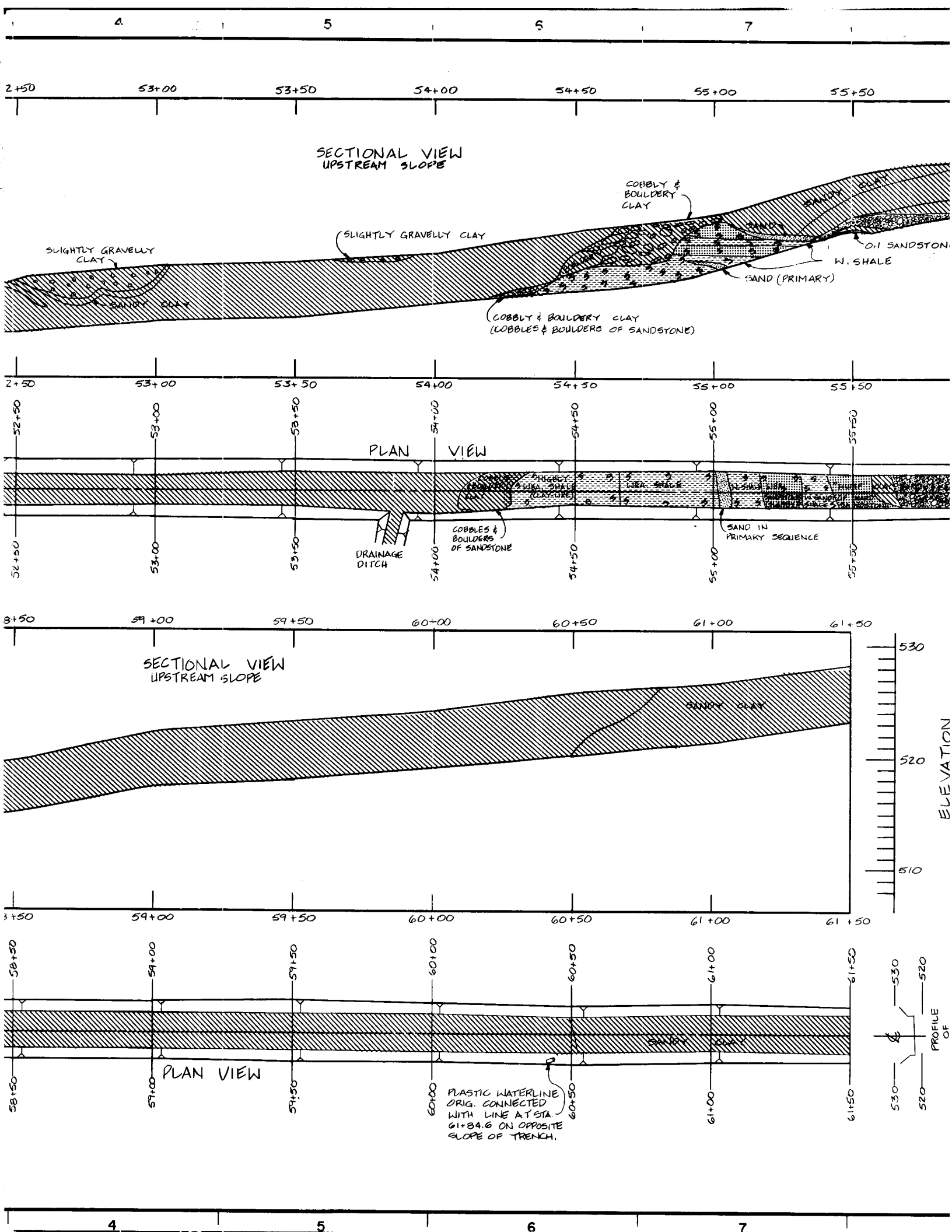
C

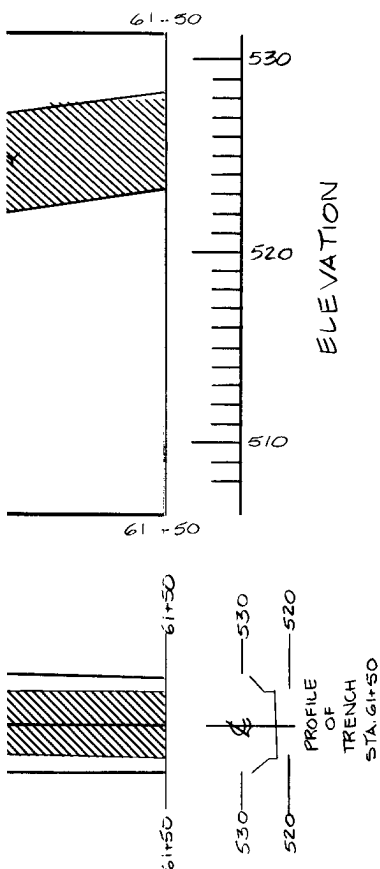
B

A

2 POLYTRACE 003







NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

[illegible]

①

F

E

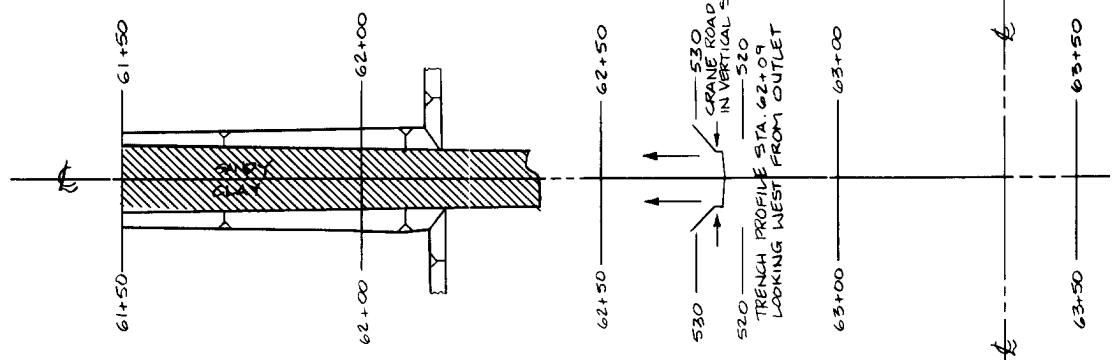
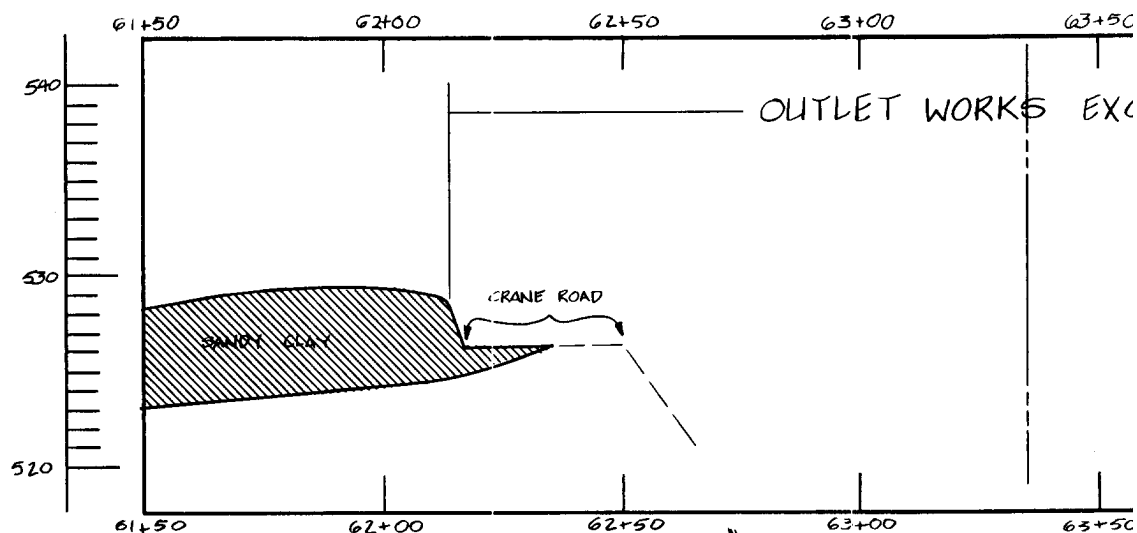
D

C

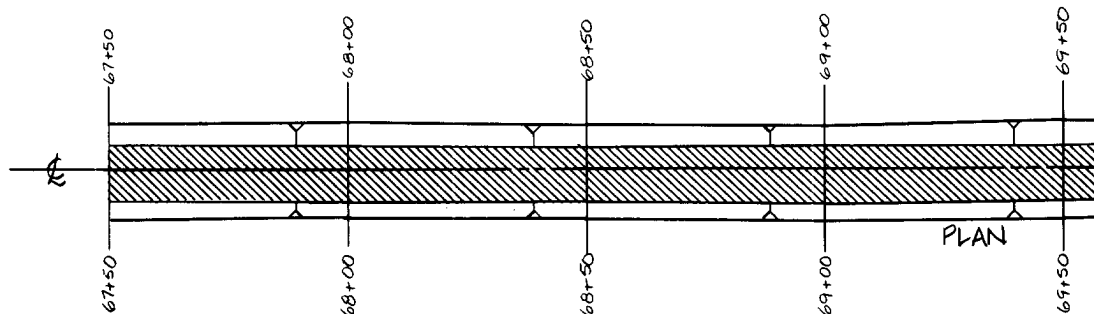
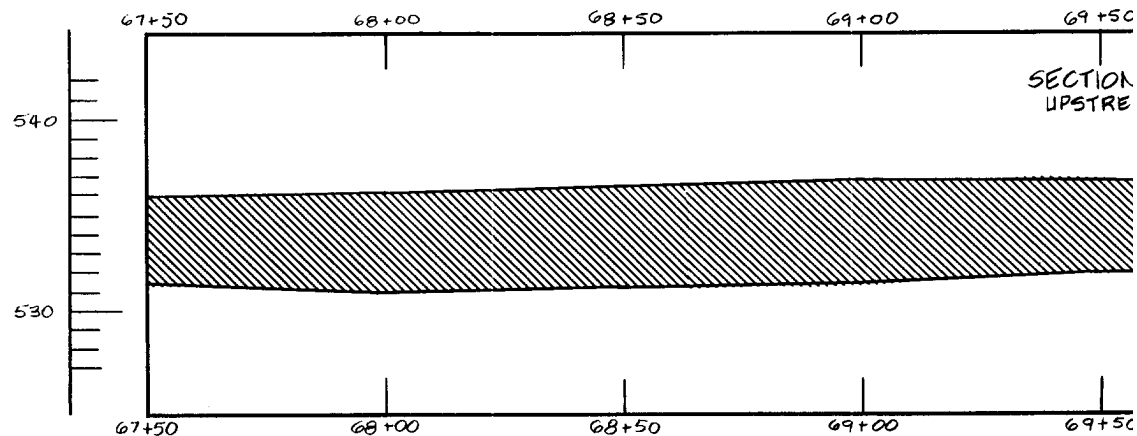
B

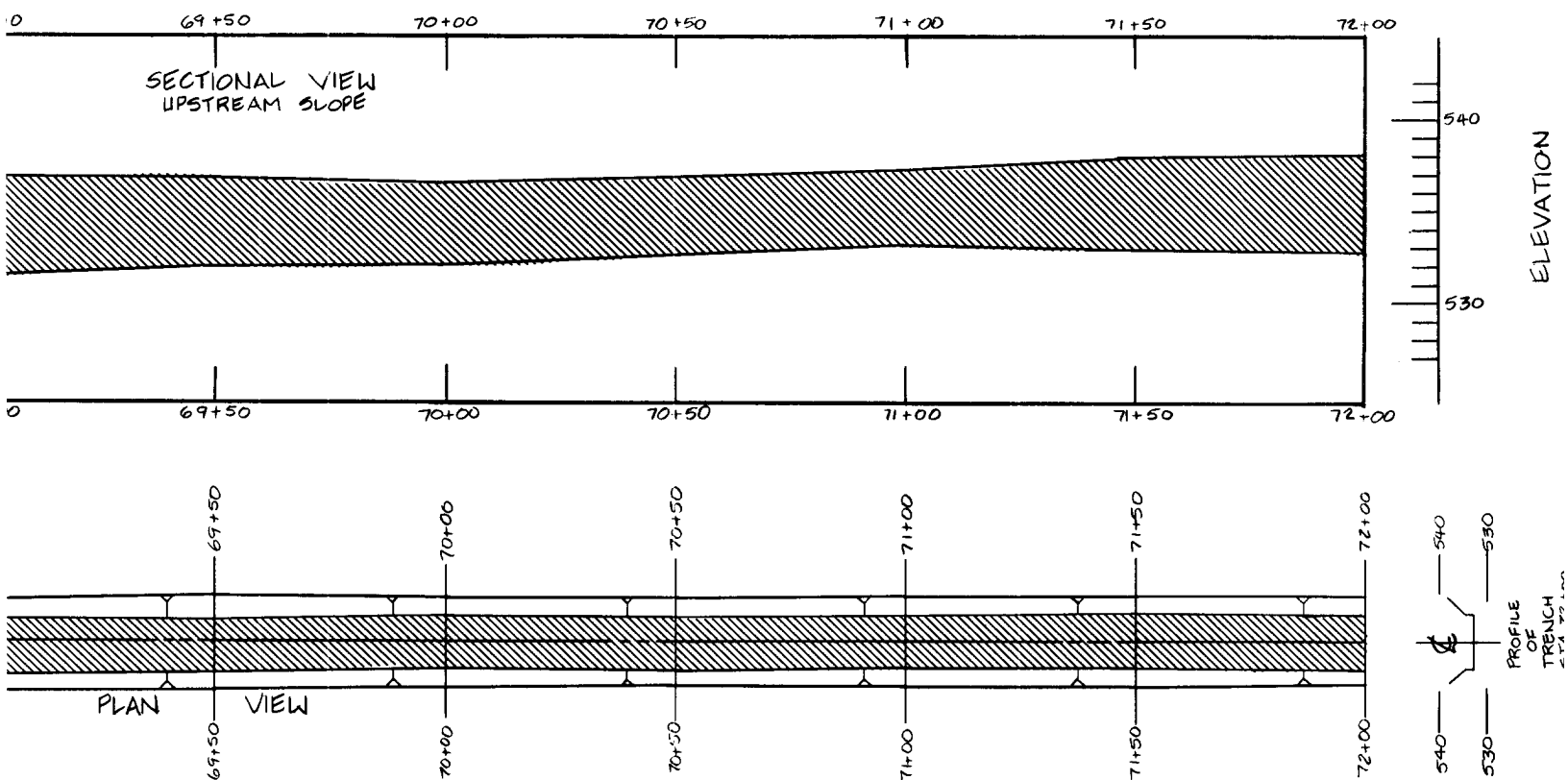
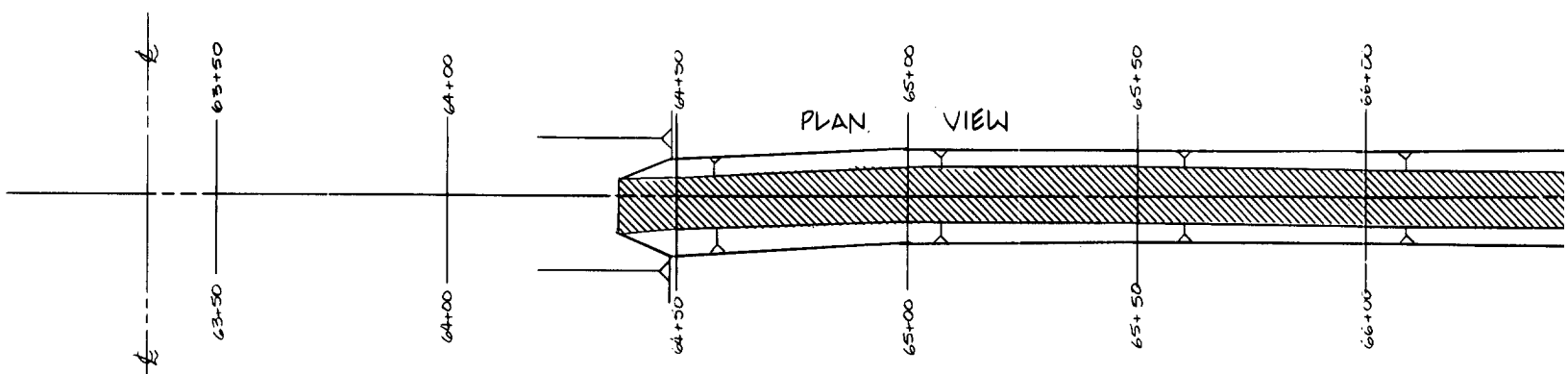
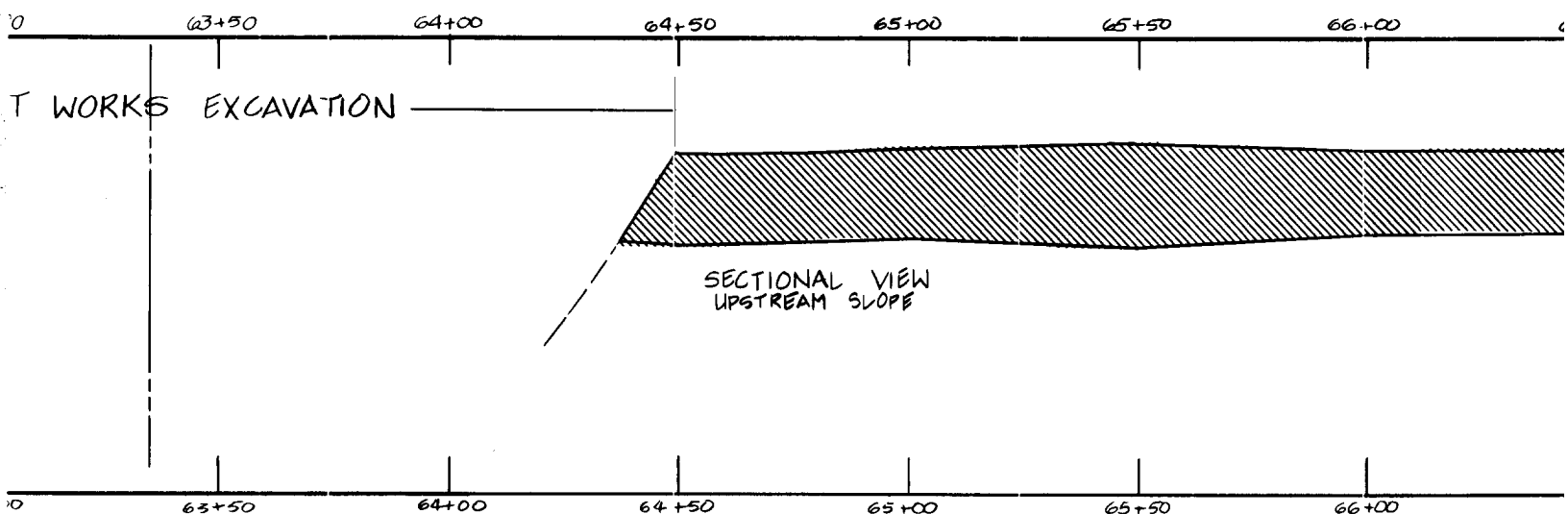
A

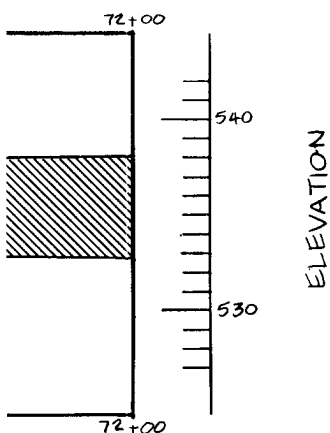
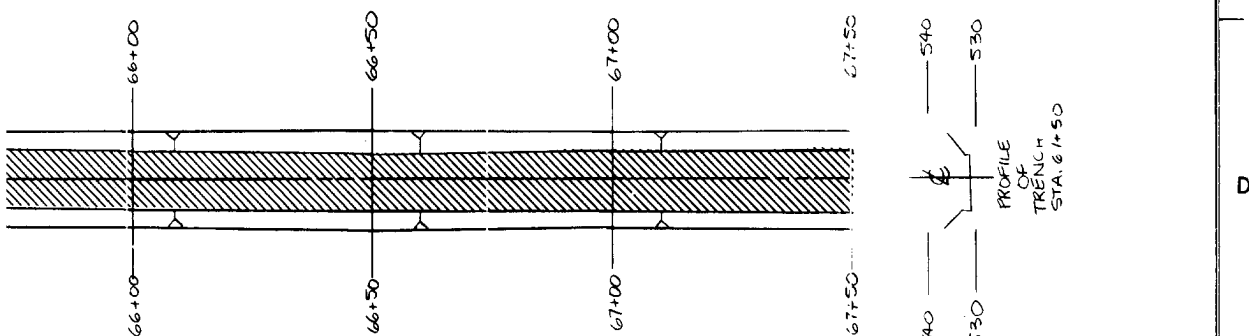
ELEVATION



ELEVATION

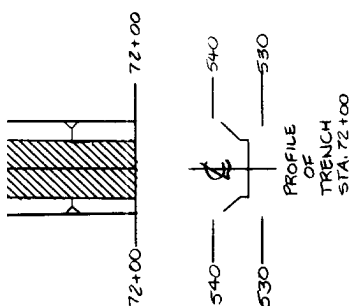




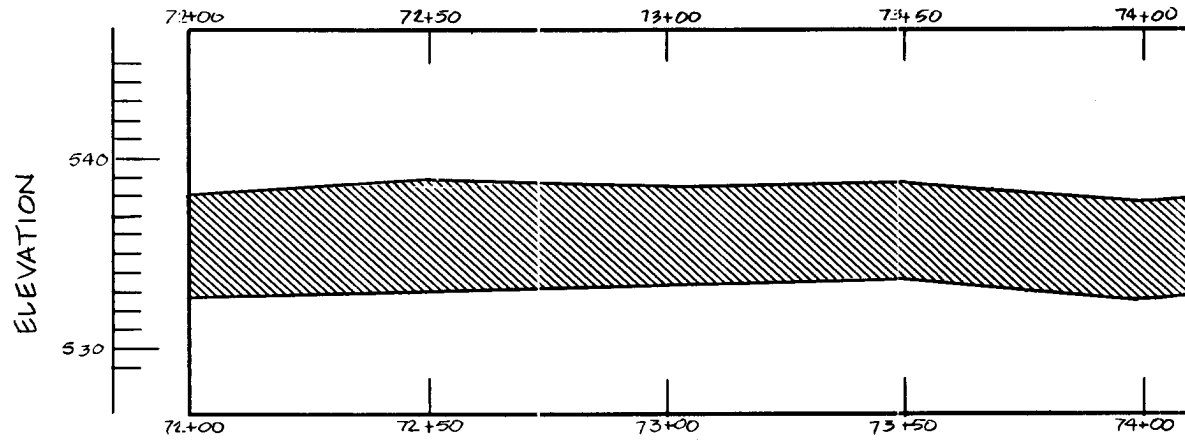


NOTE:

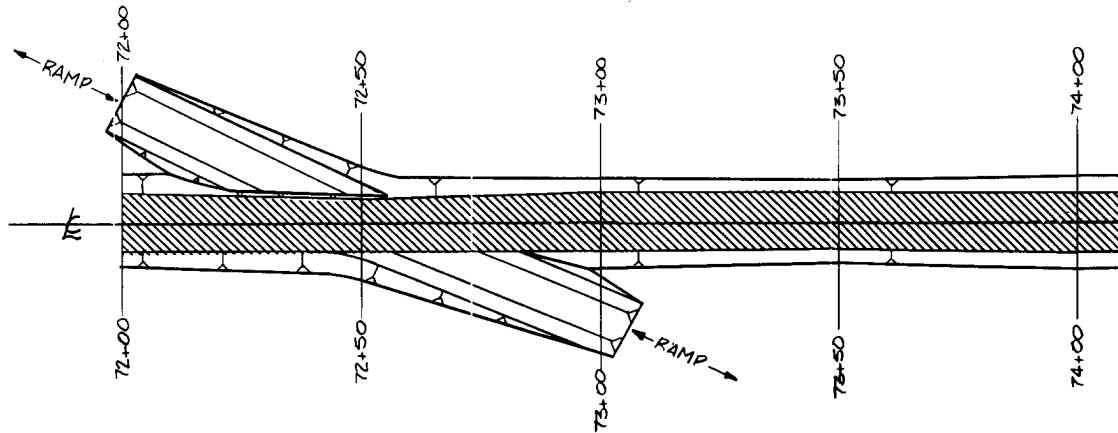
1. FOR MAP SYMBOLS, REFER TO PLATE 16.

[illegible]

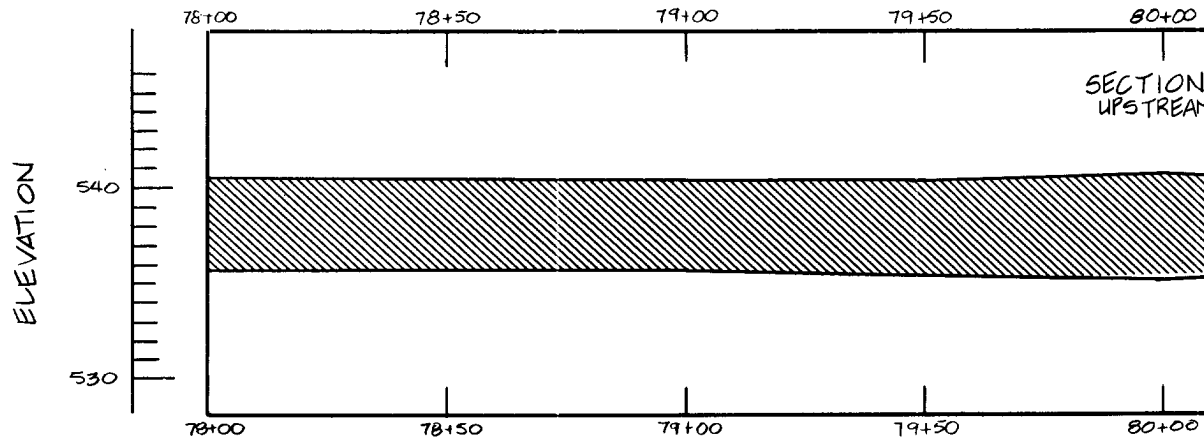
F



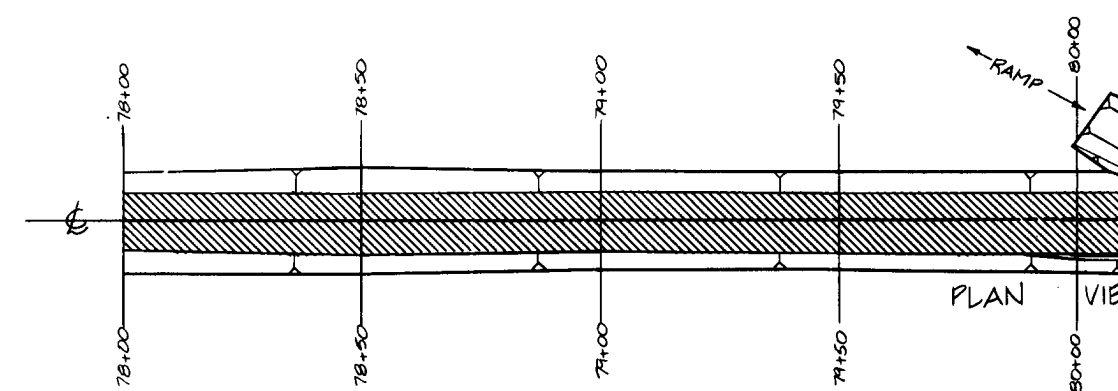
E



D

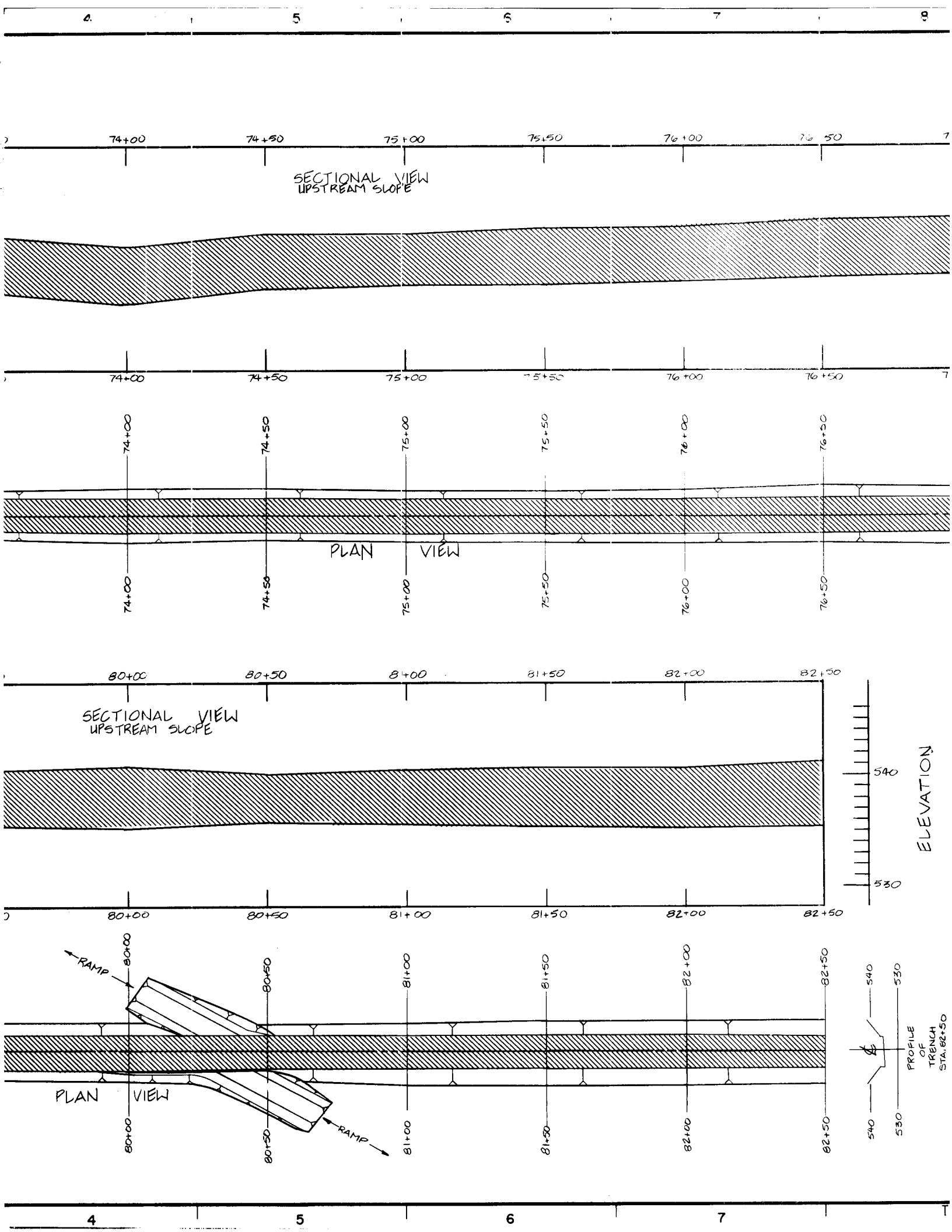


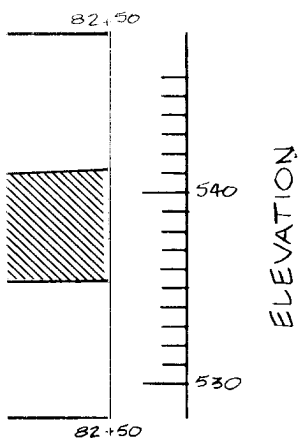
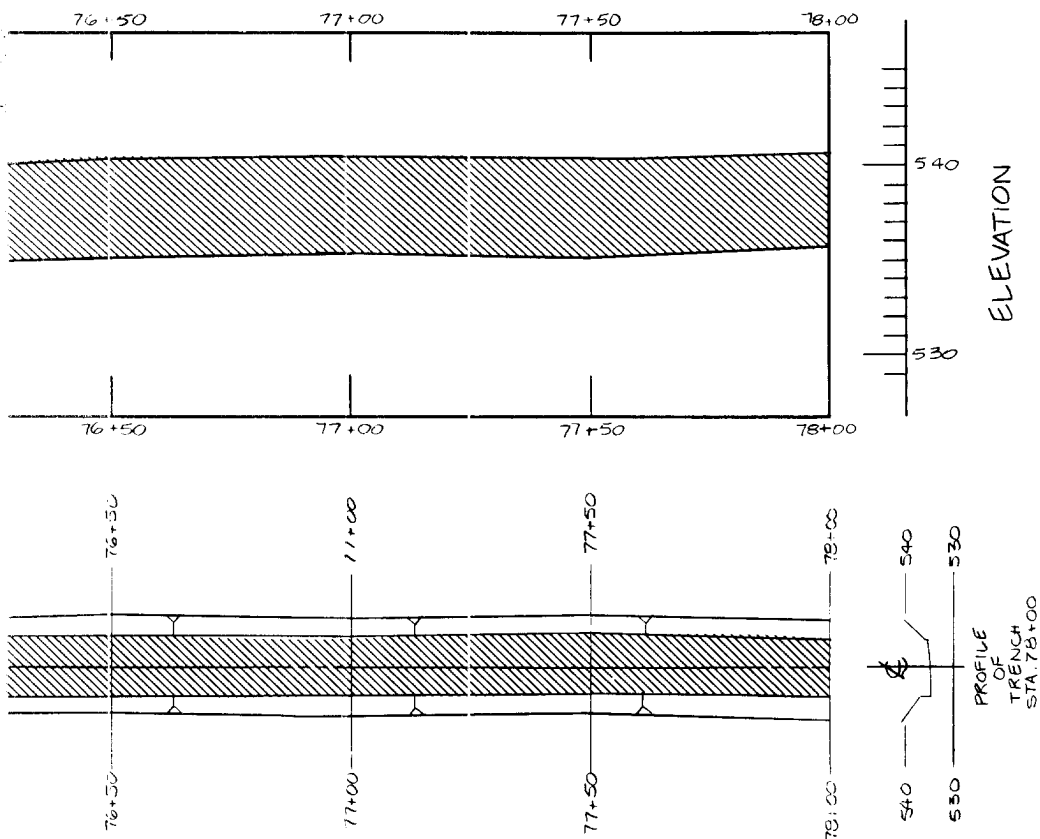
C



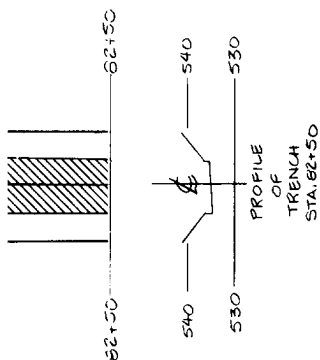
B

A





NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE 16.



SYM.		NO.	ACTION	DATE	DESCRIPTION OF REVISION
					U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY:	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT				
DRAWN BY:	INSPECTION TRENCH				
REVIEWED BY:	GEOLOGY AND EXCAVATION STA. 72+00.00 TO STA. 82+50.00				
SUBMITTED BY:	INVITATION NO.	DATE:			
ENGINEER:	CONTRACT NO.	SHEET NO.		SEQUENCE NO.	
	DRAWING NUMBER	OF			

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 26

①

F

E

D

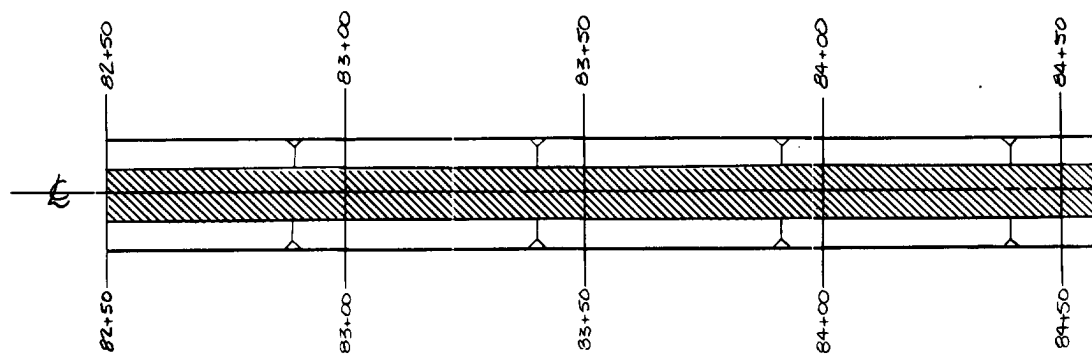
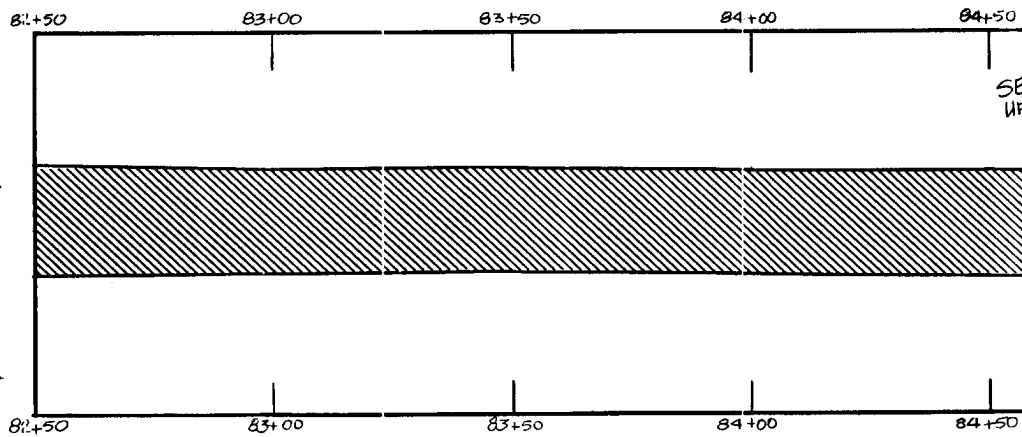
C

B

A

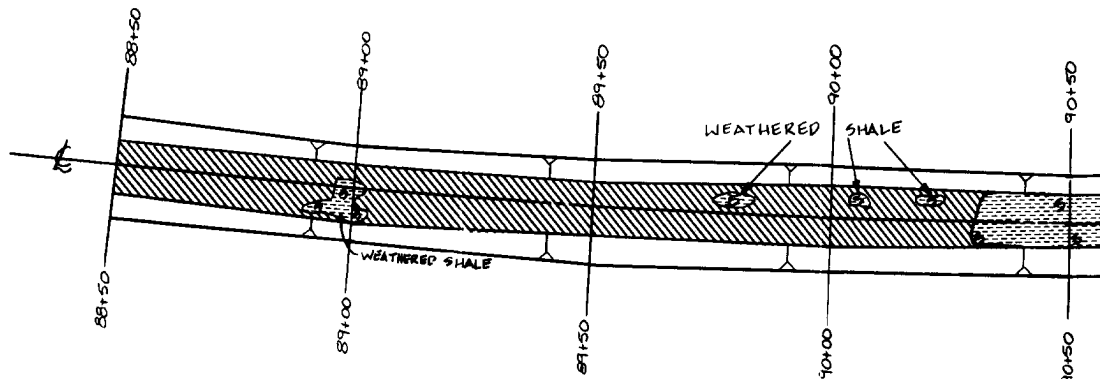
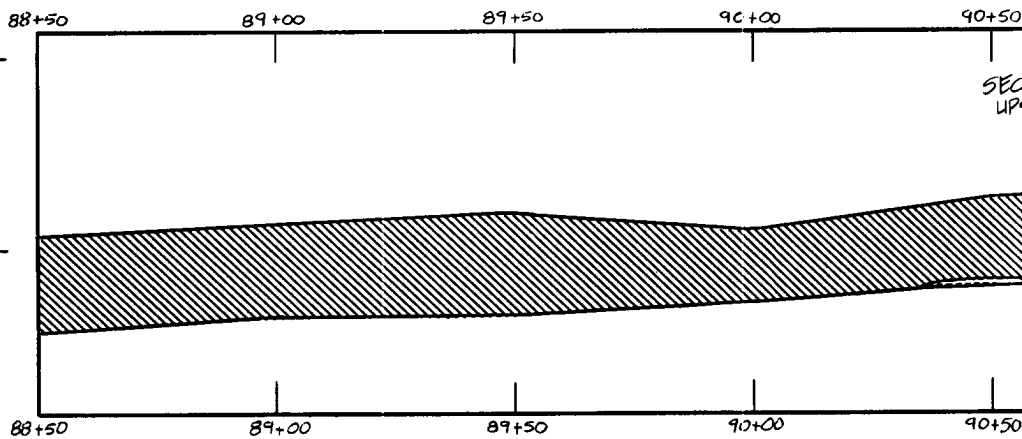
ELEVATION

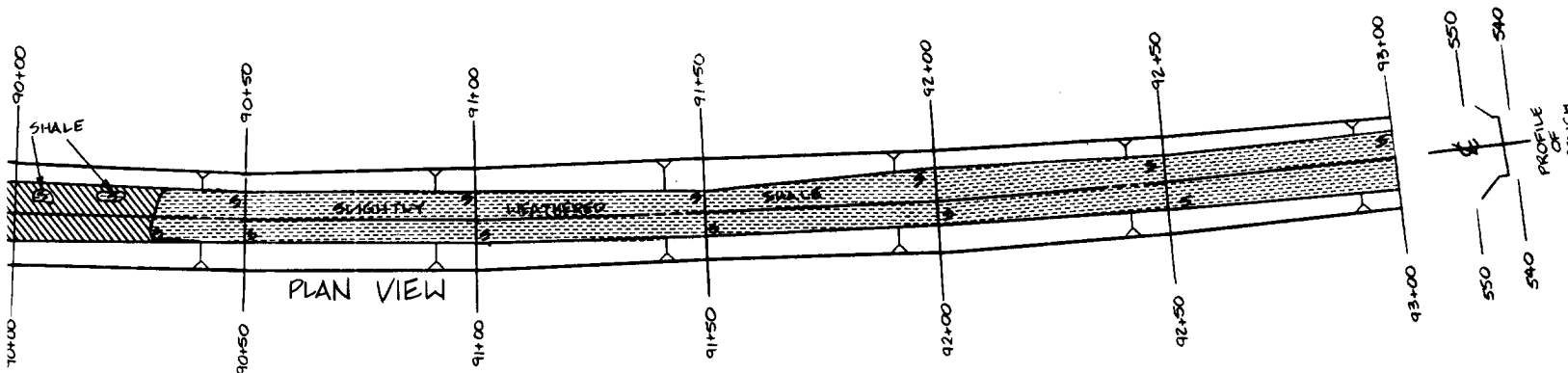
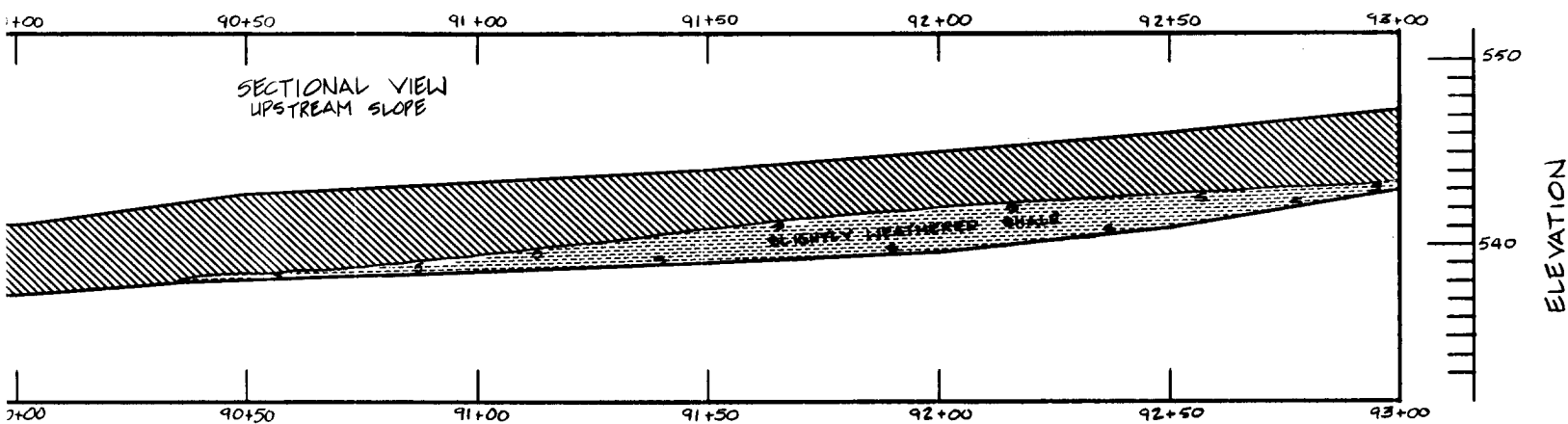
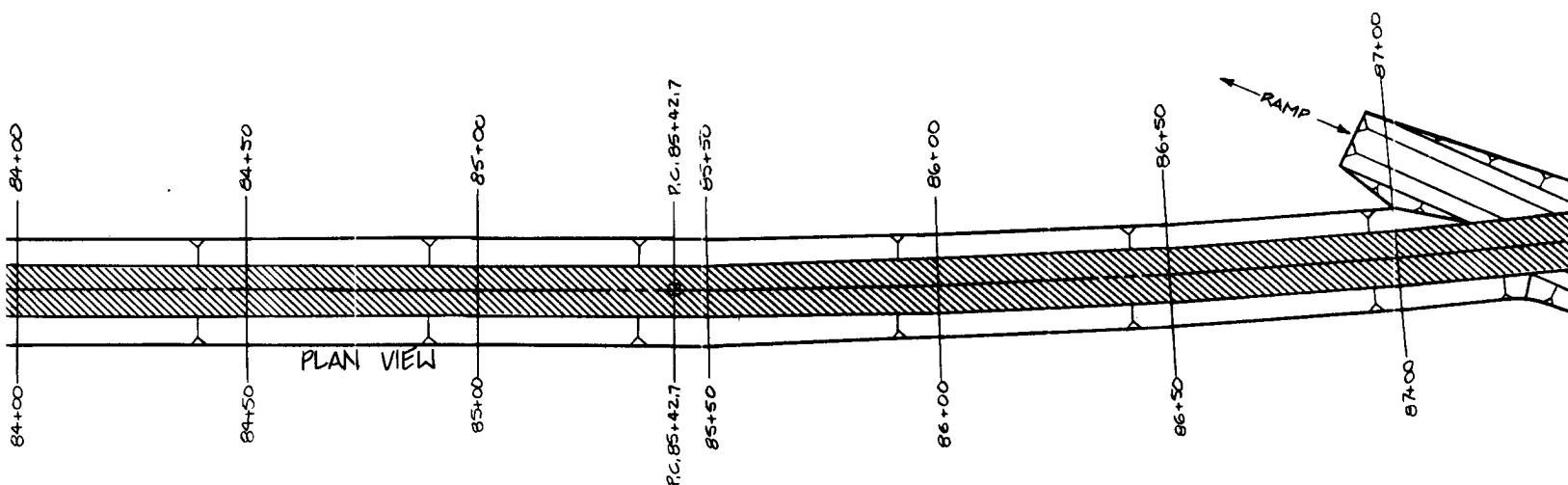
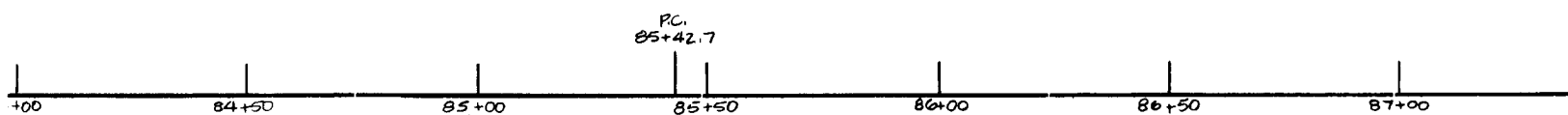
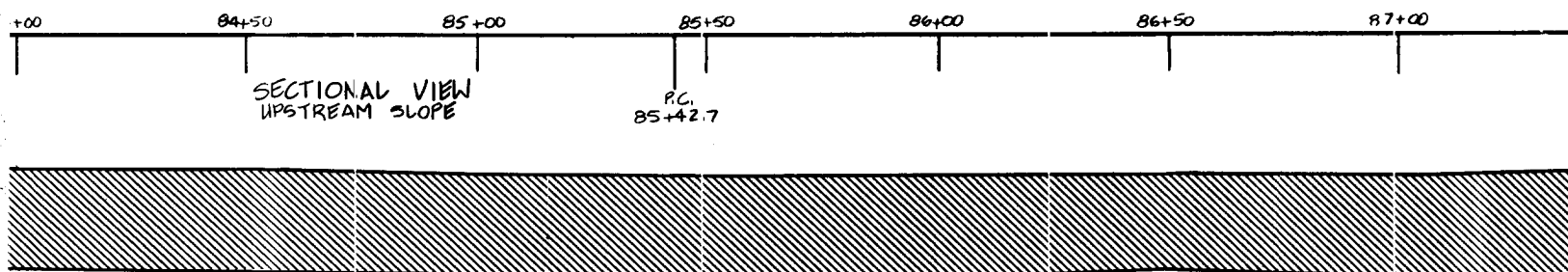
540
530



ELEVATION

550
540





F

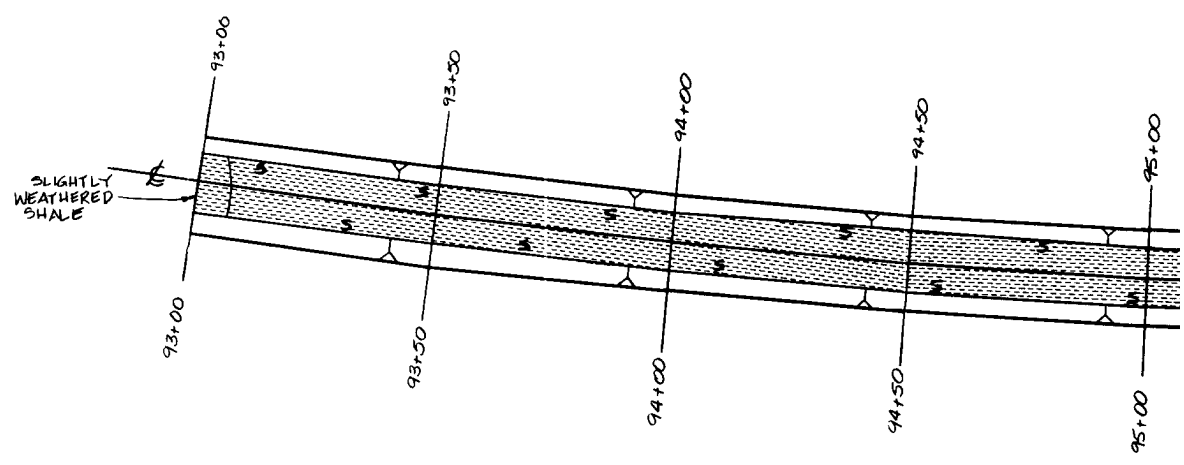
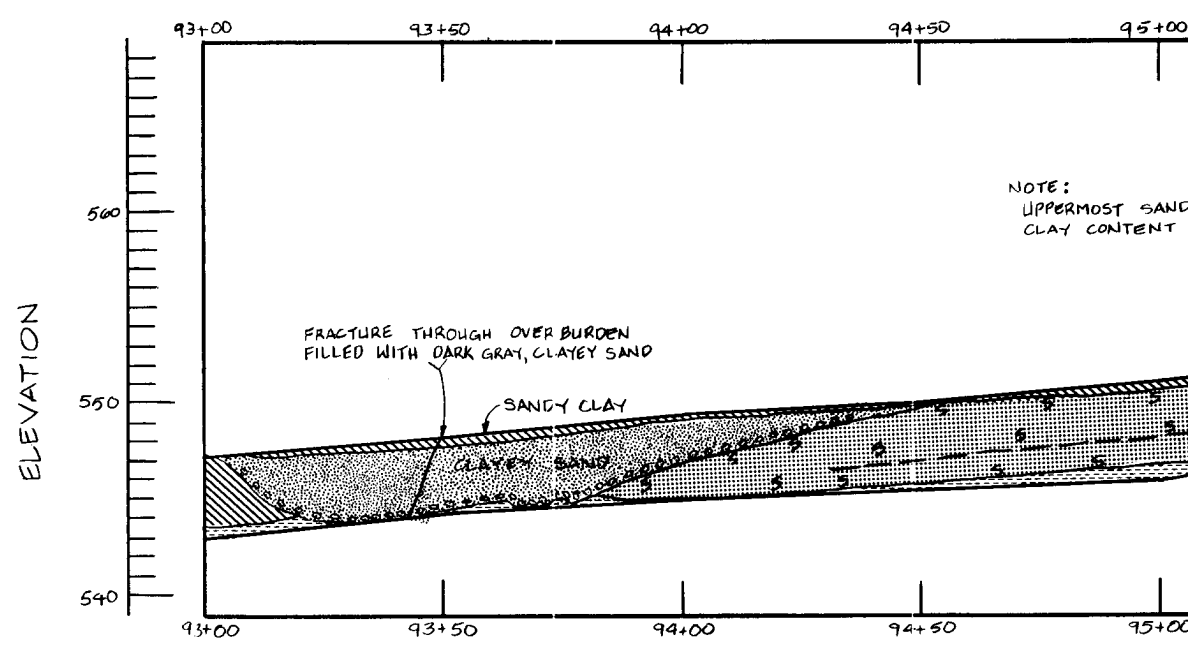
E

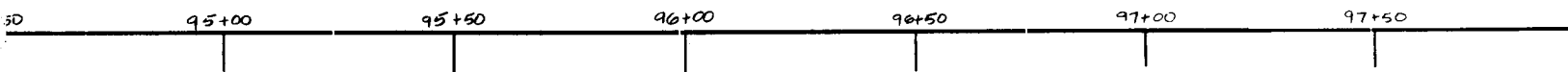
D

C

B

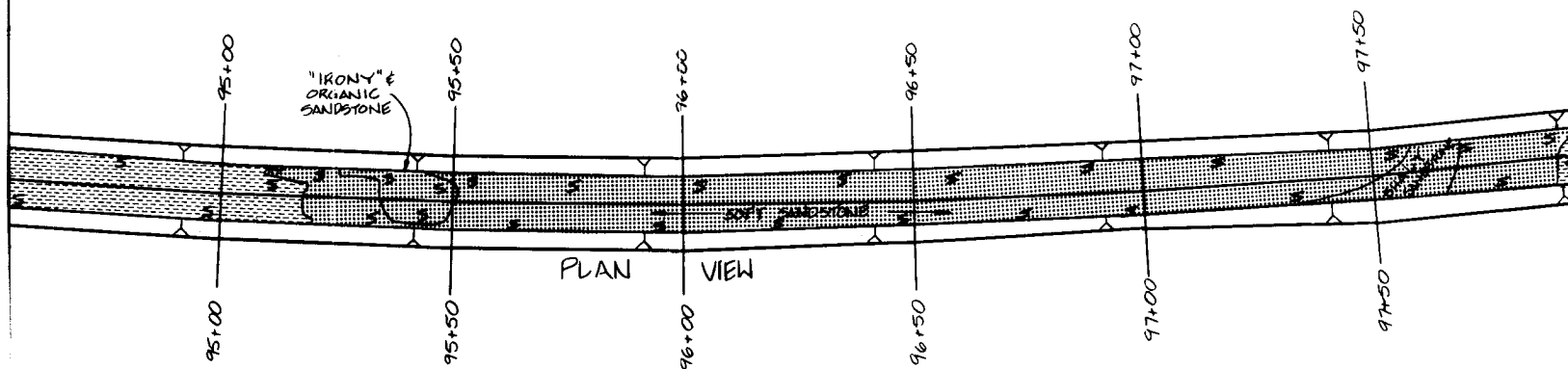
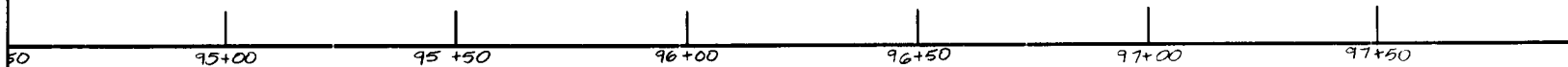
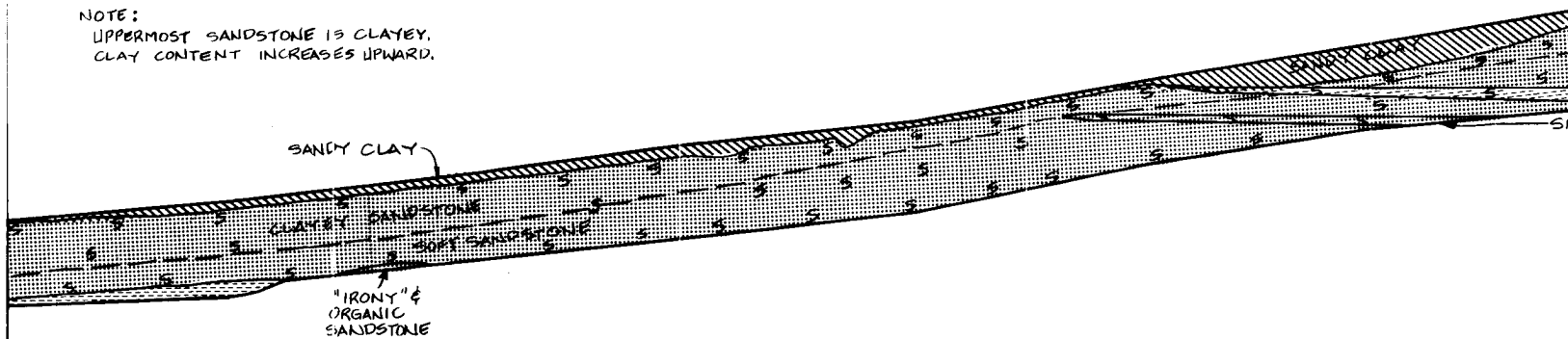
A



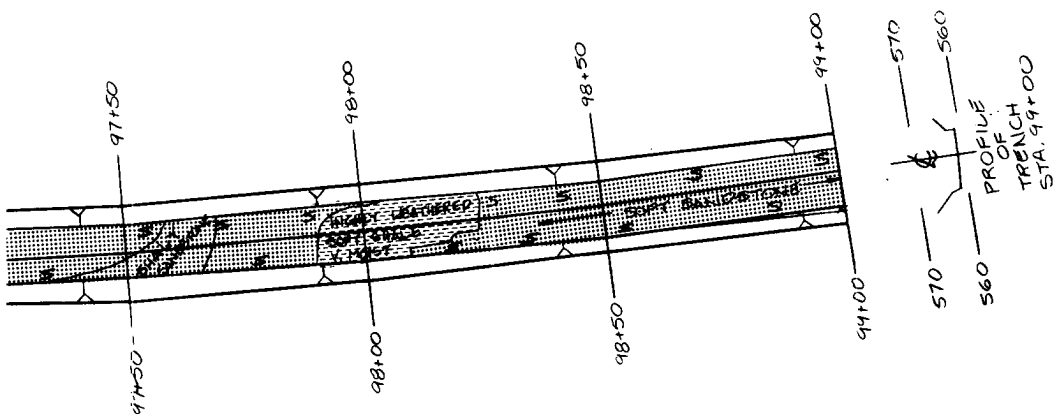
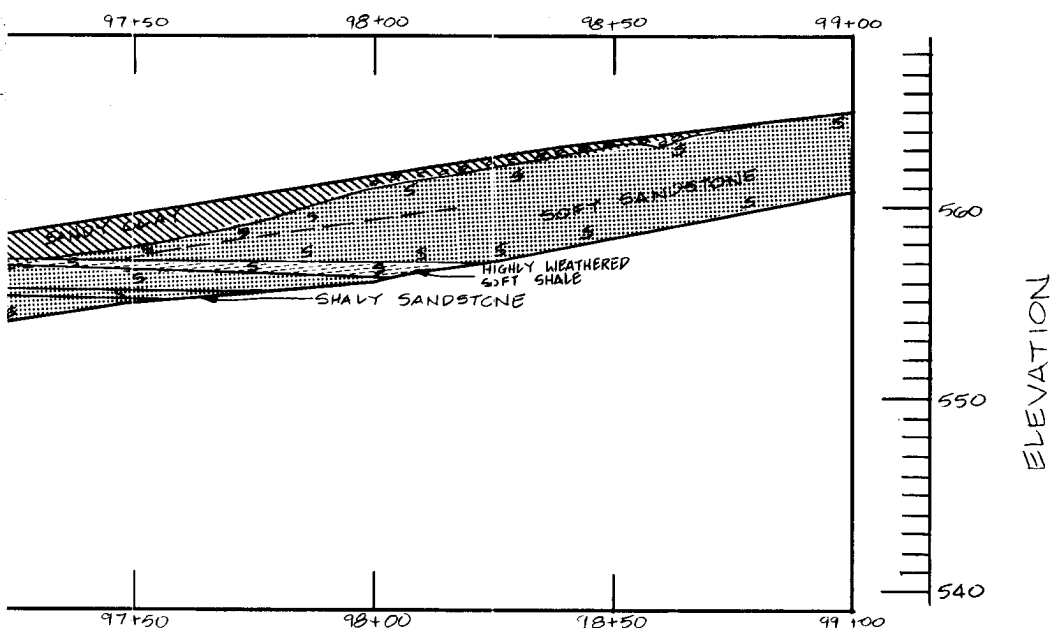


SECTIONAL VIEW
UPSTREAM SLOPE

NOTE:
UPPERMOST SANDSTONE IS CLAYEY.
CLAY CONTENT INCREASES UPWARD.



NOTE:
1. FOR MAP SYMBOLS, REFER TO PI



MAP SYMBOLS, REFER TO PLATE 16.

SYN. OR NO.	ACTION	DATE	DESCRIPTION OF REVISION

DESIGNED BY: G. RUMBLE		U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DRAWN BY: C. KIRBY		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT	
REVIEWED BY: R. BEHM		INSPECTION TRENCH	
SUBMITTED BY: ROBERT BEHM		GEOLOGY AND EXCAVATION STA. 93+00.00 TO STA. 99+00.00	
ENGINEER:		INVITATION NO.	DATE:
CONTRACT NO.		SHEET NO.	SEQUENCE NO.
DRAWING NUMBER		OF	OF

①

F

E

D

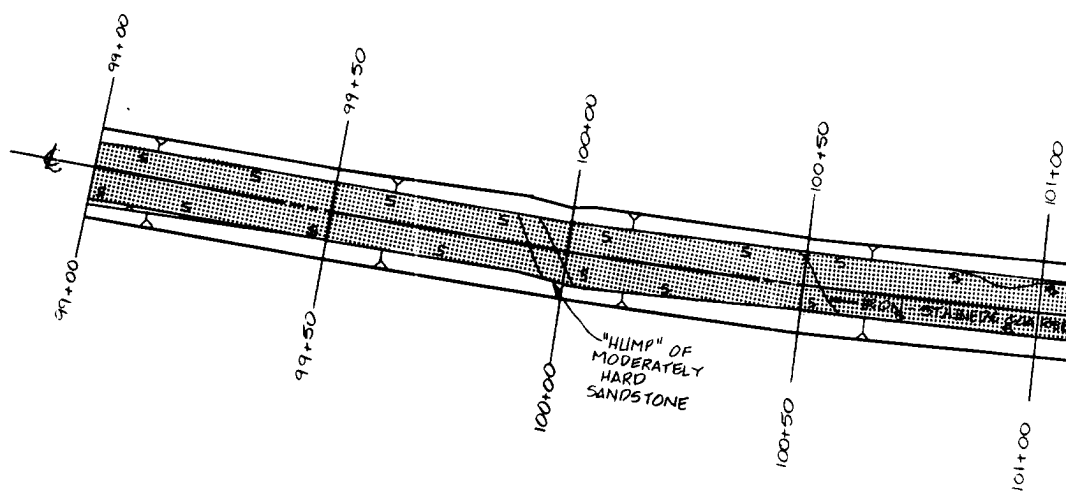
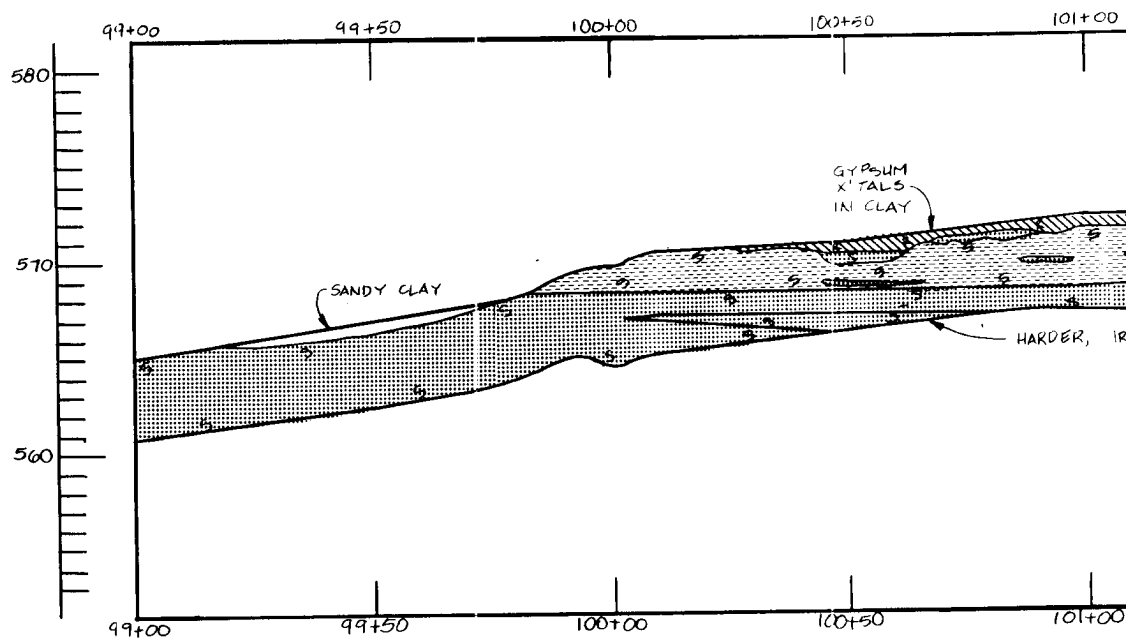
C

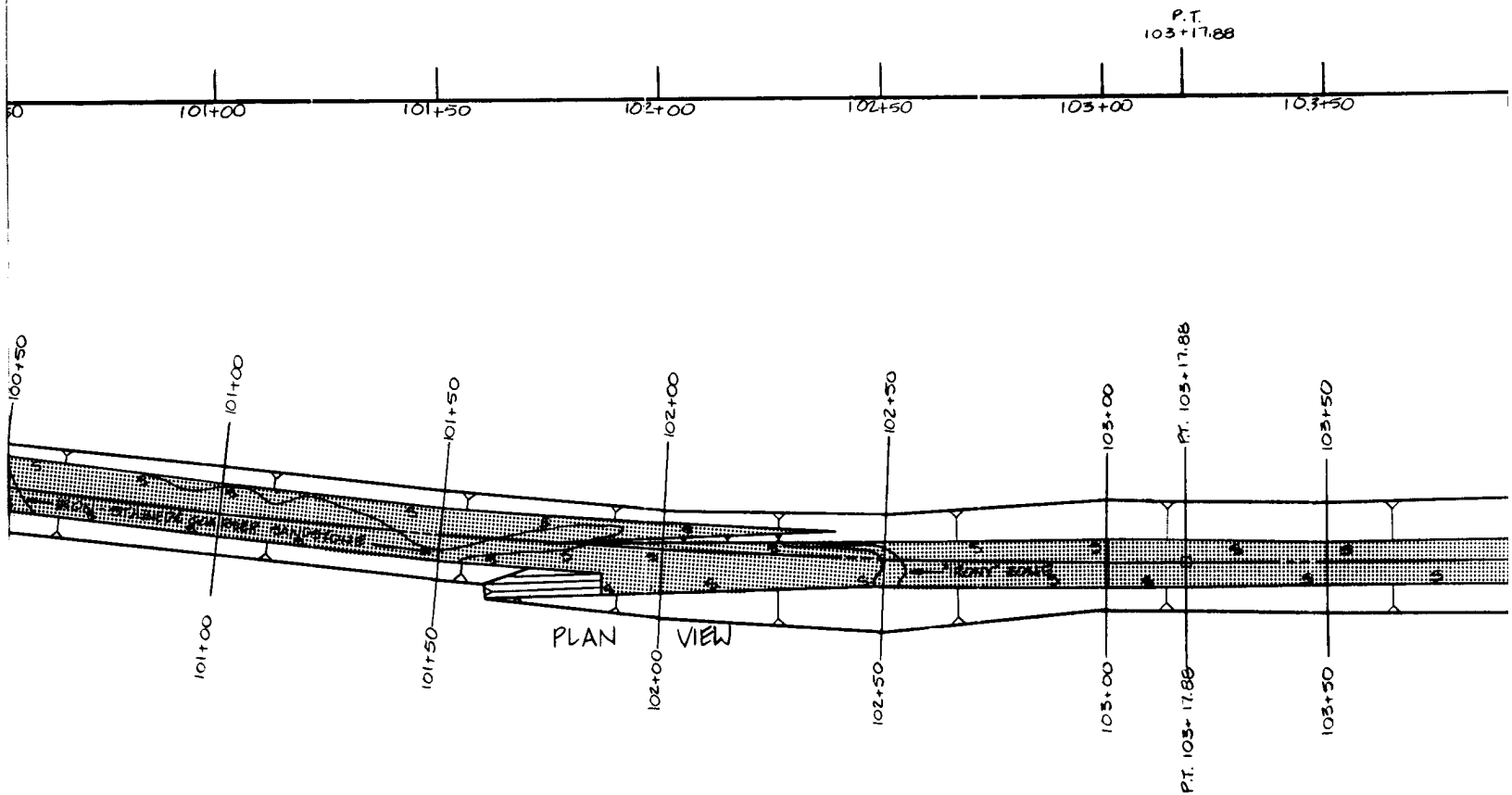
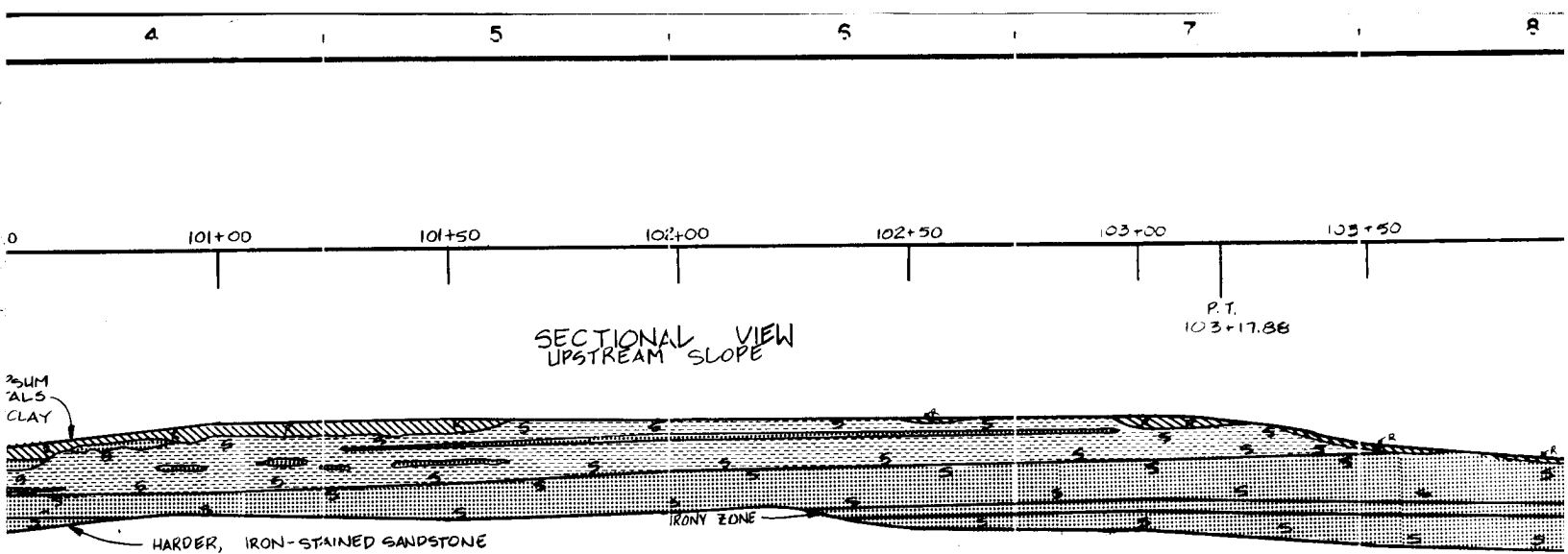
B

A

POLYTRAC 633

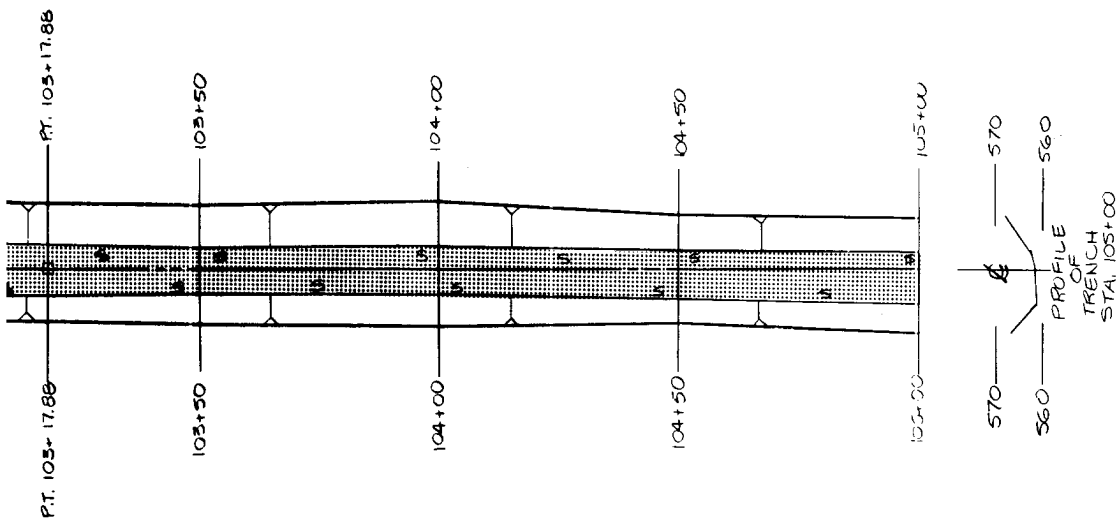
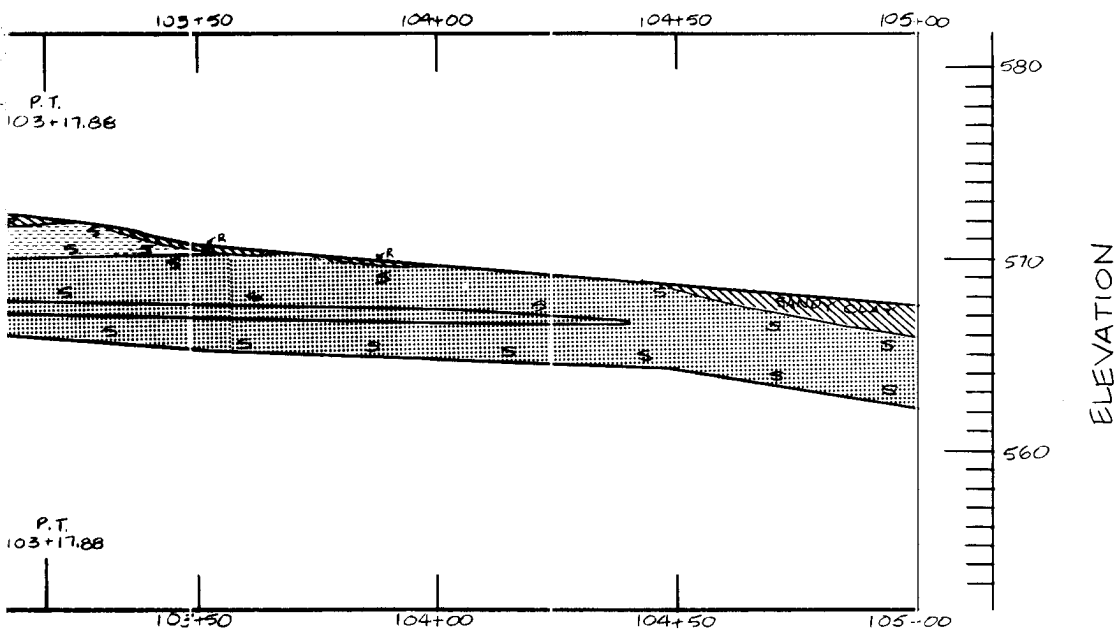
ELEVATION





NOTE:
1. FOR MAP SYMBOLS, REFER TO F

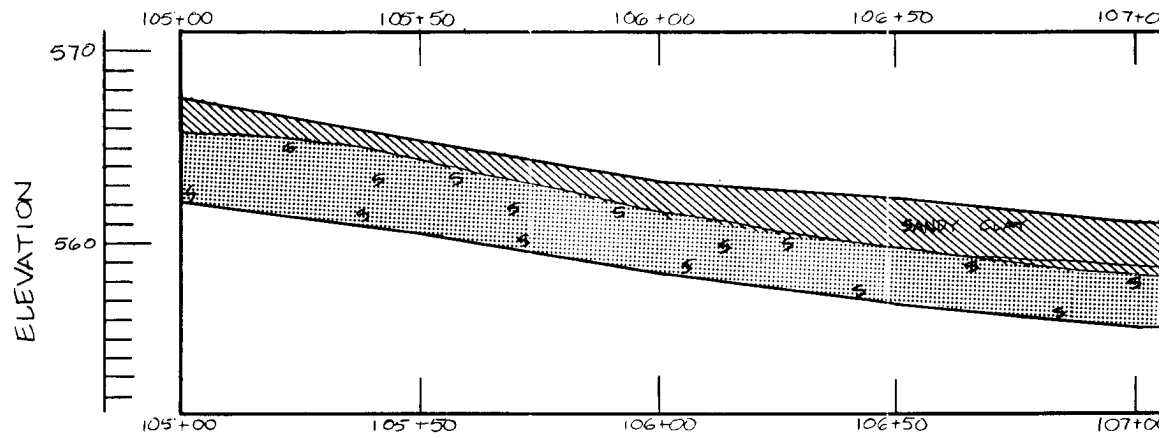




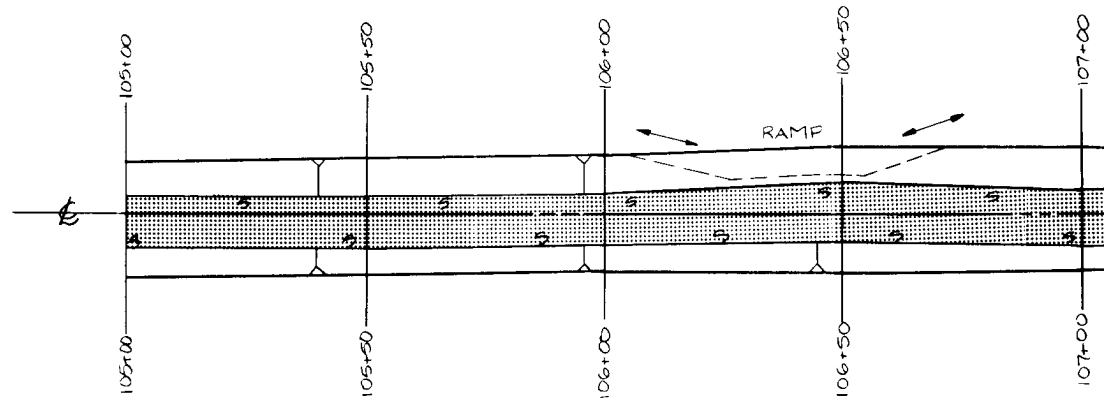
NOTE:
FOR MAP SYMBOLS, REFER TO PLATE 16.

SYM.		DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION
					U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY: G. RUEDE	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 99+00.00 TO STA. 105+00.00				
DRAWN BY: C. KIRBY					
REVIEWED BY: R. BEHM					
SUBMITTED BY: ROBERT BEHM					
ENGINEER:	INVITATION NO.	DATE:		SEQUENCE NO.	
	CONTRACT NO.	SHEET NO.		OF	
	DRAWING NUMBER				

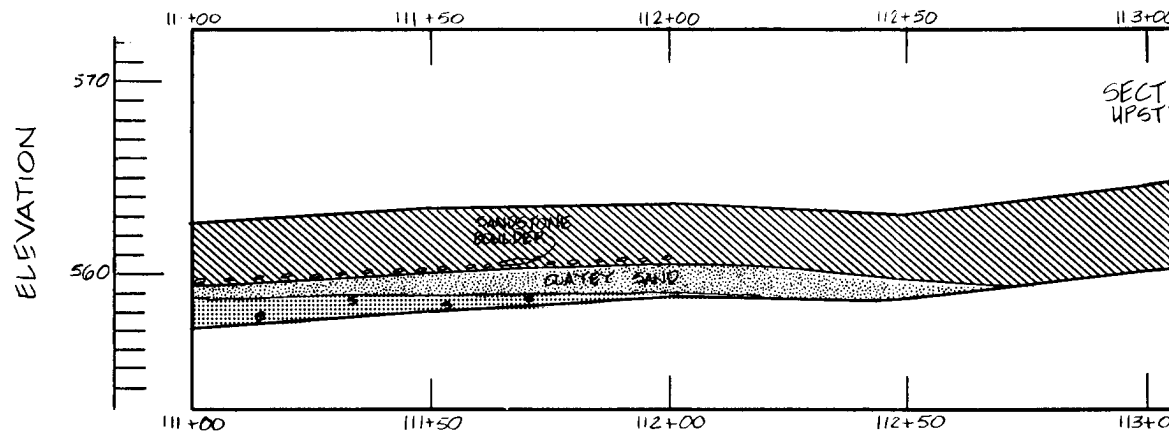
F



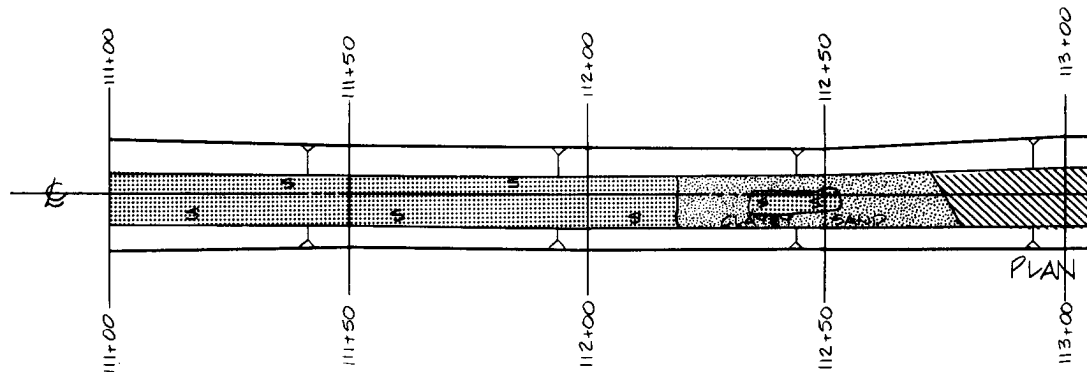
E



D



C

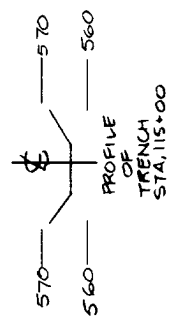
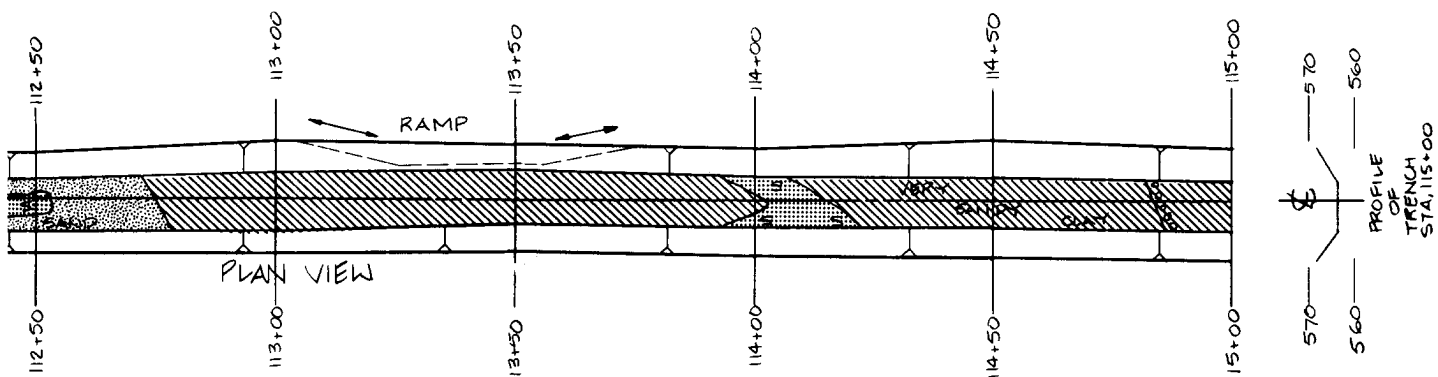
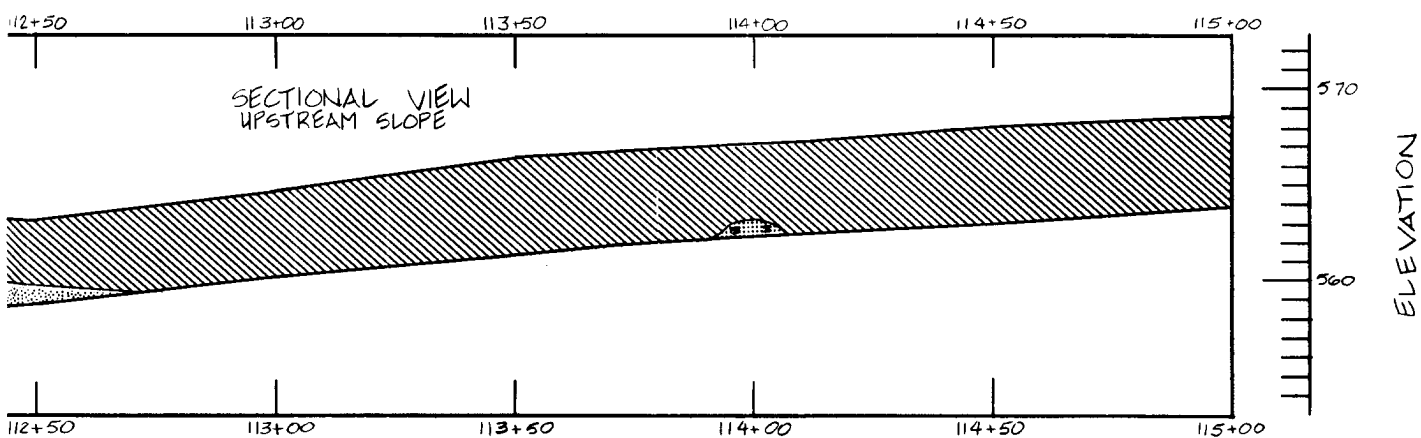
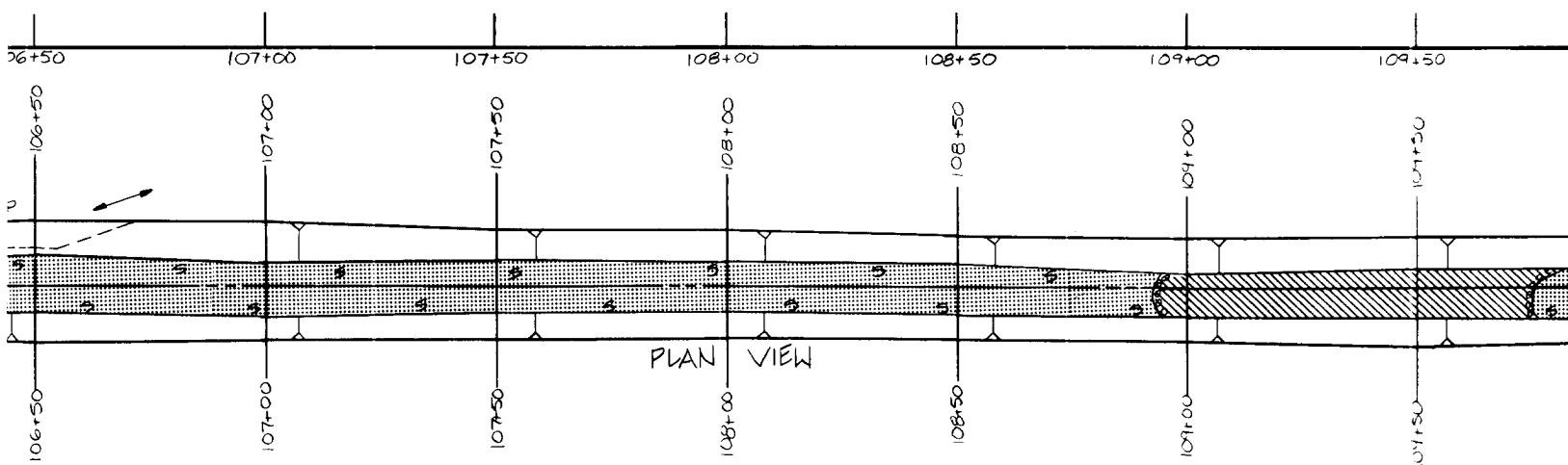
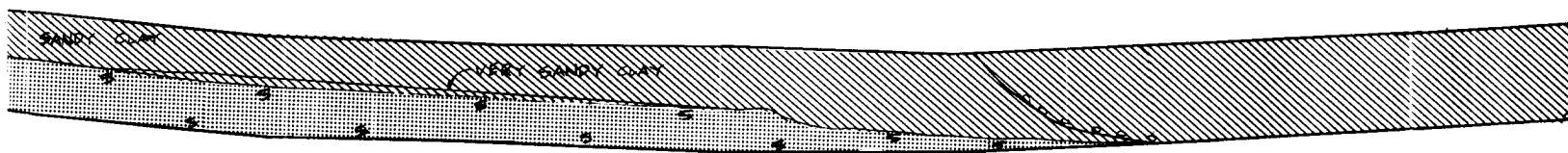


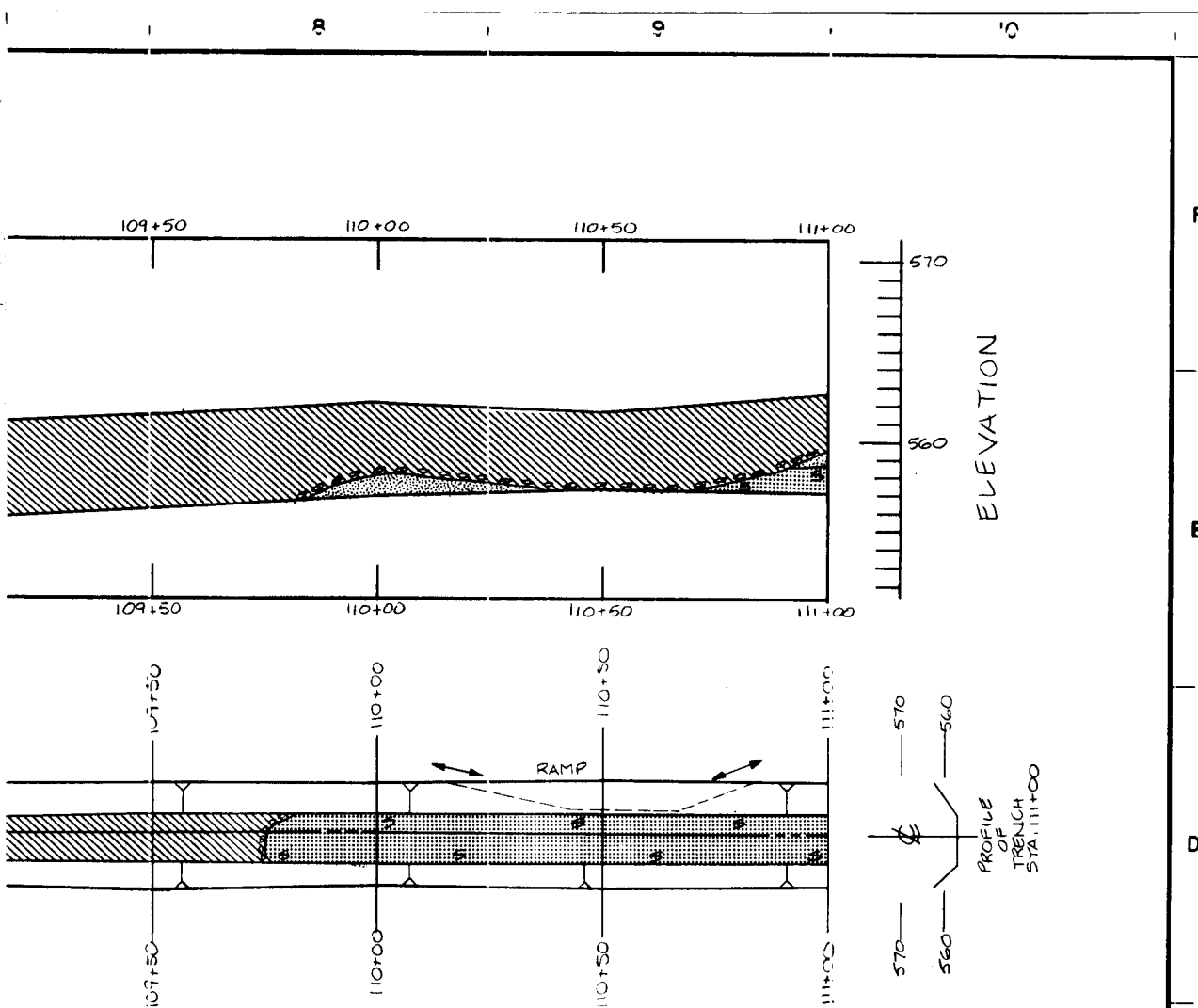
B

A

106+50 107+00 107+50 108+00 108+50 109+00 109+50

SECTIONAL VIEW
UPSTREAM SLOPE





570

560

ELEVATION

NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYMBOL NO.		ACTION		DATE		DESCRIPTION OF REVISION	
						U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY: G. RUEDE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 105+00.00 TO STA. 115+00.00					
DRAWN BY: C. KIRBY							
REVIEWED BY: R. BEHM							
SUBMITTED BY: ROBERT BEHM		ENGINEER:		INVITATION NO.		DATE:	
				CONTRACT NO.		SEQUENCE NO.	
				DRAWING NUMBER		SHEET NO. OF	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 30

1

F

E

D

C

B

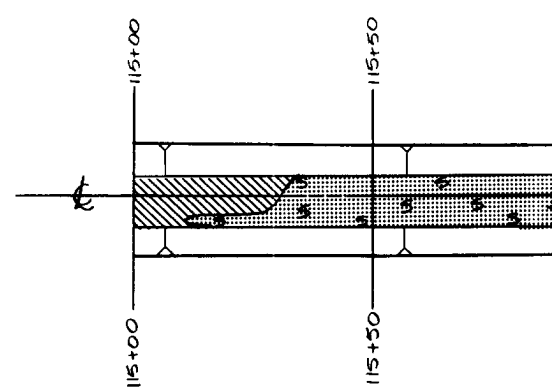
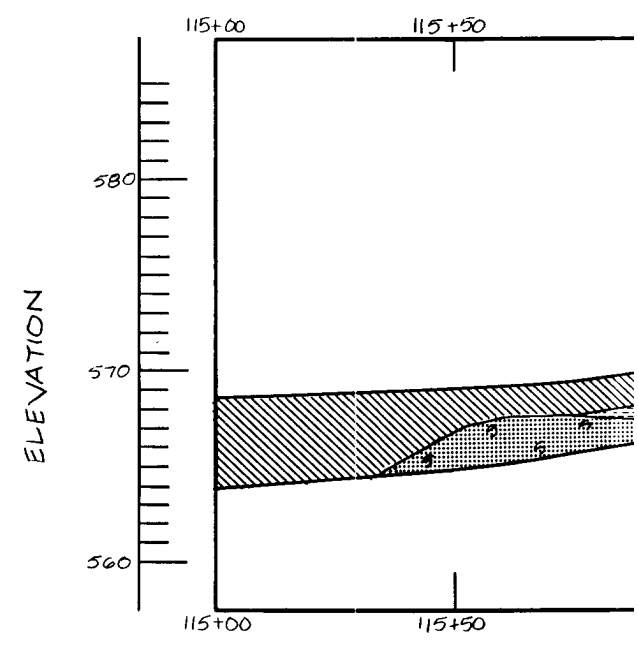
A

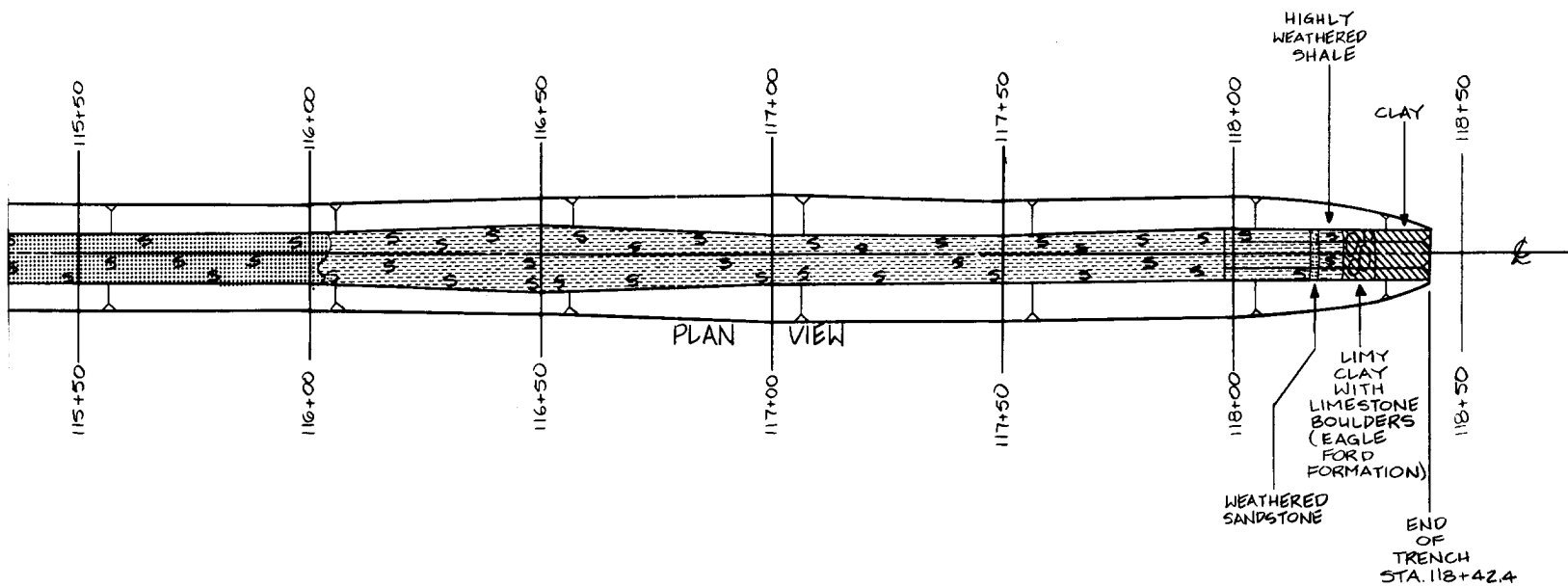
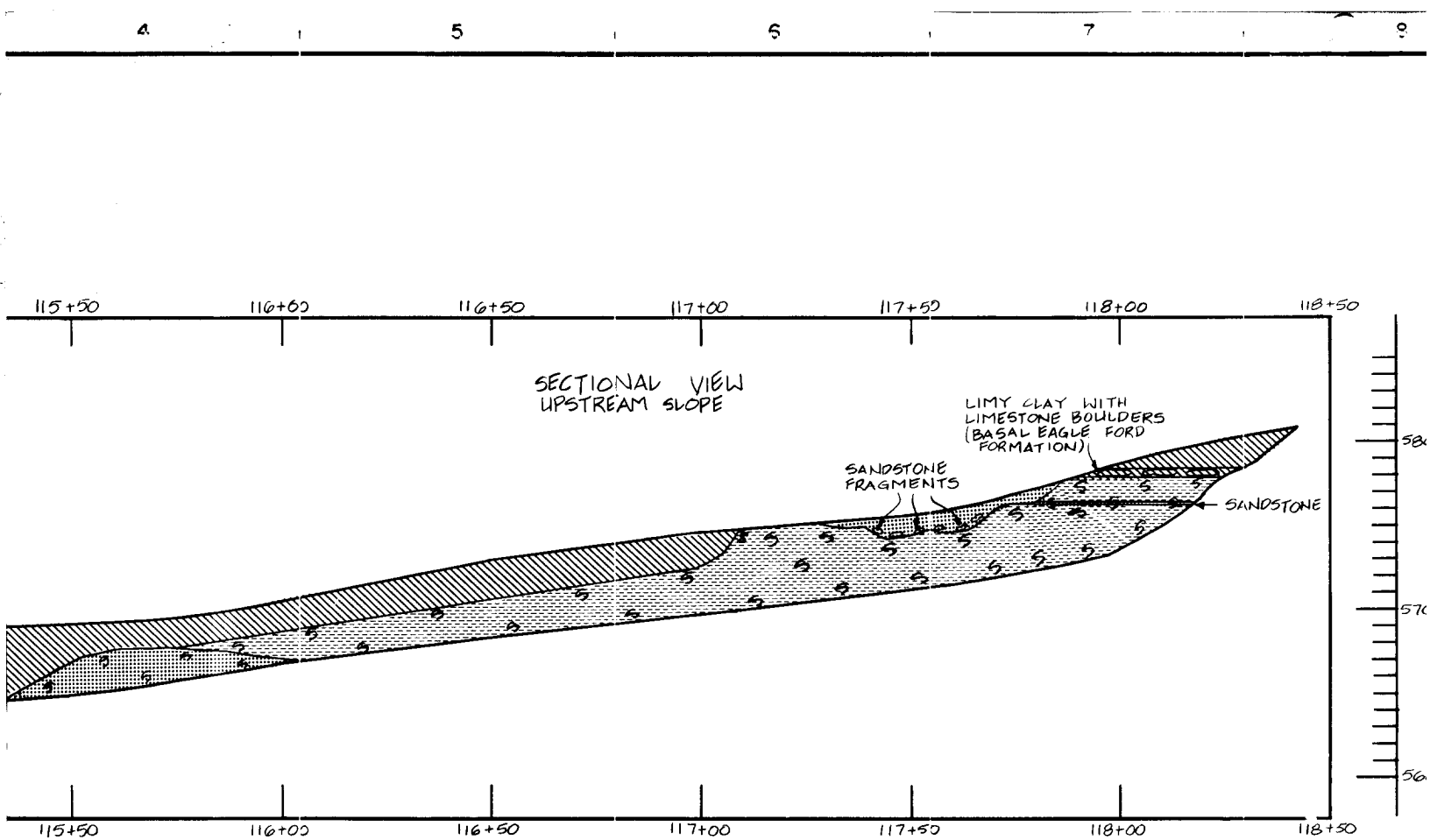
POLYTRACE 033

2

3

4





Note No. BA6C-1

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		Southwestern		Fort Worth		1	
LOCATION (Continuation of Standard)		Site-D		N. SIZE AND TYPE OF BIT OR AUGER, 6" CORE		11. DATE FOR ELEVATION MEASUREMENT - 1952	
DRILLING AGENCY		Corps of Engineers		N. MANUFACTURER'S DESIGNATION OF DRILL		Falling 310	
N. HOLE NO. (For use on boring logs and for identification)		BA6C-1		N. TOTAL NO. OF OVER-BOURDED SAMPLES TAKEN		0	
N. NAME OF DRILLER		Brown		N. TOTAL NUMBER CORE BOXES		8	
N. DIRECTION OF HOLE		[] VERTICAL [] INCLINED		N. ELEVATION GROUND WATER		88	
N. THICKNESS OF OVERBURDEN		16.5'		N. DATE HOLE		19 Dec. 72	
N. DEPTH DRILLED INTO ROCK		43.5'		N. ELEVATION TOP OF HOLE		572.0	
N. TOTAL DEPTH OF HOLE		60.0'		N. TOTAL CORE RECOVERY FOR BORING		99	
ELEVATION		DEPTH		LEGEND		CLARIFICATION OF MATERIALS (Continuation)	
10.0		10.0		A		1. Set plastic pipe 4" to	
20.0		20.0		B		2. JARS:	
30.0		30.0		C		A. 0.0' to 3.0'	
40.0		40.0		D		B. 3.0' to 3.8'	
50.0		50.0		E		C. 3.8' to 5.0'	
60.0		60.0		F		D. 5.0' to 6.3'	
				G		E. 6.3' to 7.5'	
				H		F. 7.5' to 14.0'	
				I		G. 14.0' to 16.5'	
				J		H. 16.5' to 33.0'	
				K		3. CARTONS:	
				L		1. 17.4' to 18.2'	
				M		2. 19.4' to 20.4'	
				N		3. 27.1' to 27.9'	
				O		4. 33.6' to 34.6'	
				P		5. 42.9' to 43.8'	
				Q		6. 46.9' to 47.9'	
				R		7. 51.8' to 52.8'	
				S		8. 55.0' to 56.0'	
				T		9. 59.0' to 60.0'	
				U		4. Water loss at 22.5'.	
				V		5. Material expanded 1.0' the first 19.0' of core recovered.	
				W		6. Started 6" core at 16.5'.	
				X			
				Y			
				Z			
				AA			
				AB			
				AC			
				AD			
				AE			
				AF			
				AG			
				AH			
				AI			
				AJ			
				AK			
				AL			
				AM			
				AN			
				AO			
				AP			
				AQ			
				AR			
				AS			
				AT			
				AU			
				AV			
				AW			
				AX			
				AY			
				AZ			
				BA			
				BB			
				BC			
				BD			
				BE			
				BF			
				BG			
				BH			
				BI			
				BJ			
				BK			
				BL			
				BM			
				BN			
				BO			
				BP			
				BQ			
				BR			
				BS			
				BT			
				BU			
				BV			
				BW			
				BX			
				BY			
				BZ			
				CA			
				CB			
				CC			
				CD			
				CE			
				CF			
				CG			
				CH			
				CI			
				CJ			
				CK			
				CL			
				CM			
				CN			
				CO			
				CP			
				CQ			
				CR			
				CS			
				CT			
				CU			
				CV			
				CW			
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				JL			

Make No. BA6C-1

DRILLING LOG		DIVISION		INSTALLATION	
PROJECT		Southwestern		Fort Worth	
LOCATION (Continuation of Standard)		Site-D		Aquila Dam	
DRILLING AGENCY		Corps of Engineers		Falling 310	
HOLE NO. (If not on drawing, give name)		BA6C-1		8	
NAME OF DRILLER		Brown		ELEVATION GROUND WATER	
DIRECTION OF HOLE		VERTICAL		DATE HOLE	
THICKNESS OF OVERBURDEN		16.5'		ELEVATION TOP OF HOLE	
DEPTH DRILLED INTO ROCK		43.5'		TOTAL CORE RECOVERY FOR BORING	
TOTAL DEPTH OF HOLE		60.0'		SIGNATURE OF INSPECTOR	
ELEVATION		DEPTH		LEGEND	
CLARIFICATION OF MATERIALS (Description)		CORRELATION		REMARKS	
0.0' to 3.0'		A		1. Set plastic pipe 4" to	
CLAY: slightly silty, lean, moist, medium, dark grayish brown. Trace of small gravel & fine roots.		B		2. JARS:	
3.0' to 5.0'		C		A. 0.0' to 3.0'	
CLAY: slightly sandy, as fine to coarse sand-sized lime particles, lean, very stiff to hard.		D		B. 3.0' to 3.8'	
5.0' to 7.5'		E		C. 3.8' to 5.0'	
Trace gravel to 7 1/2', grayish brown.		F		D. 5.0' to 6.3'	
7.5' to 10.0' somewhat crumbly, tan.		G		E. 6.3' to 7.5'	
10.0' to 12.5'		H		F. 7.5' to 14.0'	
CLAY: very limy, lean, slightly moist to dry, v. stiff, light tan. No distinct white lime wea. to clay consistency.		I		G. 14.0' to 16.5'	
12.5' to 15.0'		J		H. 16.5' to 33.0'	
CLAY: slightly sandy, silty, gray (fine sand) clay. Slightly moist, moderately stiff, crumbly, light tan.		K		3. CARTONS:	
15.0' to 17.5'		L		1. 17.4' to 18.2'	
Trace to small to small gravel to coarse sand-sized sandstone fragments.		M		2. 19.4' to 20.4'	
17.5' to 20.0'		N		3. 27.1' to 27.9'	
CLAY: highly limy, weak, v. thin lime streaks wea. to clay, coarse, moist, stiff - v. stiff, shaly structure, yellowish tan with white & few gray streaks.		O		4. 33.6' to 34.6'	
20.0' to 22.5'		P		5. 42.9' to 43.8'	
CLAY: no visible lime, but limy reaction faced, moist, stiff to v. stiff, shaly structure, yellowish tan with numerous light gray streaks.		Q		6. 46.9' to 47.9'	
22.5' to 25.0'		R		7. 51.8' to 52.8'	
CLAY: INTERBEDDED w/ SAND, SANDY CLAY & CLAY LENSES, STIFF-MED. COMPACT, MOIST, V. DISSE, DENSE, Y. & ORK. GRAY.		S		8. 55.0' to 56.0'	
25.0' to 28.8'		T		9. 59.0' to 60.0'	
CLAY-SHALE		U		4. Water loss at 22.5'.	
28.8' to 30.0'		V		5. Material expanded 1.0' the first 19.0' of core recovered.	
Stiff, moist, drk. gray.		W		6. Started 6" core # 16.5'.	
30.0' to 32.8'		X			
SANDY, med.-stiff, thin lenses of gray sand, drk. gray.		Y			
32.8' to 34.0'		Z			
SANDSTONE		AA			
28.4' to 28.6'		AB			
HARD, calc., fine-grained, drk. gray.		AC			
34.0' to 40.1'		AD			
SAND		AE			
40.1' to 43.8'		AF			
CLAY, med. compact, moist, some clay lenses, drk. gray.		AG			
43.8' to 49.1'		AH			
SHALE		AI			
49.1' to 50.0'		AJ			
Stiff-v. stiff, laminated, sil. fissile, blue-blk.		AK			
50.0' to 59.1'		AL			
CLAY, med. compact, moist, drk. gray.		AM			
59.1' to 60.0'		AN			
SHALE		AO			
v. stiff, fissile, thin, laminated, moist, drk. blue-blk.		AP			
60.0' to 60.0'		AQ			
Some siltstone lenses or nodules.		AR			
--- T.D. 60.0' ---		AS			

 ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE
 MAR 71 (TRANS 111-171)

PROJECT Aquila Dam - D

BA6C-1

Make No. BA6C-2

DRILLING LOG		DIVISION		INSTALLATION	
PROJECT		Southwestern		Fort Worth	
LOCATION (Continuation of Standard)		Site-D		Aquila Dam	
DRILLING AGENCY		Corps of Engineers		Falling 310	
HOLE NO. (If not on drawing, give name)		BA6C-2		8	
NAME OF DRILLER		Brown		ELEVATION GROUND WATER	
DIRECTION OF HOLE		VERTICAL		DATE HOLE	
THICKNESS OF OVERBURDEN		3.5'		ELEVATION TOP OF HOLE	
DEPTH DRILLED INTO ROCK		56.5'		TOTAL CORE RECOVERY FOR BORING	
TOTAL DEPTH OF HOLE		60.0'		SIGNATURE OF INSPECTOR	
ELEVATION		DEPTH		LEGEND	
CLARIFICATION OF MATERIALS (Description)		CORRELATION		REMARKS	
0.0' to 3.0'		A		1. 4" plastic pipe set to depth of 40.0' for water level observation.	
CLAY: slightly sandy, as fine to coarse sand-sized lime particles, moist, v. stiff, tan to near olive drab.		B		2. JARS:	
3.0' to 3.5'		C		A. 0.0' to 3.0'	
CLAY: limy as white lime at the wea. to clay consistency, moist, stiff, suggestion of a key structure, light grayish tan.		D		B. 3.0' to 3.5'	
3.5' to 4.0'		E		C. 3.5' to 4.0'	
CLAY: moist, stiff, shaly structure, iron-stained coarse sand, contains few soft gravel-sized, yellow sandstone fragments. Yellow to 1 1/2" fine powder, abundant clay fragments, 1.5' appears to be highly wea. silty w/ ss. seam.		F		D. 4.0' to 6.0'	
4.0' to 6.0'		G		E. 6.0' to 7.8'	
SHALE: weathered, soft, lt. gray w/ iron-staining. Thin, stiff, hard clay.		H		F. 7.8' to 9.0'	
6.0' to 7.8'		I		G. 9.0' to 23.0'	
SAND: clayey and sandy, moist, sand, soft clay, medium to med. fine sand, reddish yellow, clay, iron-staining, a mica sample.		J		3. CARTONS:	
7.8' to 9.0'		K		1. 15.6' to 16.4'	
SANDSTONE		L		2. 24.7' to 25.7'	
Trace of fine sand, fine grained, slightly moist, silty dark brown. Contains fragments of med. clay ironstone. Sand varies on degree of iron concentration.		M		3. 31.9' to 32.9'	
9.0' to 11.0'		N		4. 40.0' to 42.0'	
SHANDSTONE		O		5. 45.3' to 46.3'	
9.0-9.5' med. calc. fine gr., poorly bedded, iron stained, drk. red to yellow.		P		6. 51.7' to 52.5'	
9.5-11.0' calc. fine gr., dense, v. dense, drk. yellow.		Q		7. 57.6' to 58.6'	
11.0' to 32.5'		R		4. Started 6" core # 9.0'.	
SAND		S			
11.0' to 24.5'		T			
Fine-grained, med. compact, sil. moist, sil. Fe stain, lt. tan to tan.		U			
24.5' to 28.5'		V			
Clayey, fine-grained, some thin clay lenses, moist, drk. gray.		W			
28.5' to 32.5'		X			
v. clayey, thin, bedded, moist, med. compact to dense, drk. gray.		Y			
32.5' to 60.0'		Z			
SHALE		AA			
Laminated to poorly fissile, v. stiff, moist, blue-blk.		AB			
60.0' to 60.0'		AC			
Note: Carton #3 contains sand & clay-shale contact.		AD			
44.0' to 44.2'		AE			
SILTSTONE - Hard, conchoidal fracture, lt. tan.		AF			
52.4' to 52.6'		AG			
SANDSTONE - HARD, calc., fine-grained, drk. gray.		AH			
60.0' to 60.0'		AI			
--- T.D. 60.0' ---		AJ			

 ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE
 MAR 71 (TRANS 111-171)

PROJECT Aquila Dam

BA6C-2

Drilling Log for Aquilla Dam, Southwest Division, Fort Worth Dist. Includes project details, well information, and a detailed stratigraphic log with elevations and descriptions of soil layers.

Drilling Log for Aquilla Dam, Southwest Division, Fort Worth Dist. Includes project details, well information, and a detailed stratigraphic log with elevations and descriptions of soil layers.

Drilling Log for Aquilla Dam, Southwest Division, Fort Worth Dist. Includes project details, well information, and a detailed stratigraphic log with elevations and descriptions of soil layers.

DRILLING LOG		BUREAU		Make No.		PAGE	
PROJECT		SOUTHWESTERN		FORT WORTH DIST.		SHEET 1	
LOCATION		AQUILLA DAM		6" DIA.		6" DIA.	
1. DRILLING AGENCY		USACE		2. MANUFACTURER'S DESIGNATION OF DRILL		MSL	
3. NAME OF DRILLER		BROWN		4. DATE MOLE		P DEC 71: 15 DEC 72	
5. DIRECTION OF HOLE		VERTICAL		6. DATE MOLE		P DEC 71: 15 DEC 72	
7. THICKNESS OF OVERBURDEN		36.0		8. ELEVATION TOP OF MOLE		535.5	
9. DEPTH DRILLED INTO ROCK		13.1		10. TOTAL CORE RECOVERY FOR BORING		PP	
11. TOTAL DEPTH OF HOLE		59.1		12. DEGREE OF INSPECTION		RUEDE & DEES	
ELEVATION		DEPTH		LEGEND		REMARKS	
1		2		3		4	
0.0-5.5		CLAY: LEAN, MOIST, STIFF, DRK GRAY.				* WATER LEVEL	
5.5-16.0		CLAY: SL. SANDY TO SANDY AS FINE TO CAS SAND-SIZED LINE PARTICLES, LEAN. SL. SANDY, U. STIFF, CO. P. YELLOW - MAR.				JAR SAMPLES:	
16.0-20.0		CLAY: SANDY, FINE-GR. SAND, CLAYEY, MOIST, BROWN. GRAVEL 14" - 48"				A. 0.0-5.5	
20.0-24.0		CLAYEY SAND/SANDY CLAY MOIST, MED. RUSTY TAN. 24.0-29.0				B. 5.5-8.0	
24.0-35.0		CLAY: SANDY MOIST, MED. STIFF-STIFF, RUSTY TAN W/ SOME LT. GRAY INCLUSIONS				C. 8.0-11.0	
35.0-36.0		CLAYEY SAND/SANDY CLAY MOIST, SOFT, RUSTY TAN W/ TRACE OF LT. GRAY.				D. 11.0-16.0	
36.0-59.1		SHALE: FINE, THINLY LAMINATED, STIFF, U. STIFF, MOIST, BLUS-BLACK. 37.0-38.5 THIN LENSES OF SAND.				E. 16.0-21.0	
37.0-38.5		Thin beds of SANDSTONE located 81' to 38.1'				F. 21.0-24.0	
38.5-40.0		Thin beds of SANDSTONE located 81' to 40.0'				G. 24.0-29.0	
40.0-42.0		Thin beds of SANDSTONE located 81' to 42.0'				H. 29.0-35.0	
42.0-44.0		Thin beds of SANDSTONE located 81' to 44.0'				I. 35.0-36.0	
44.0-46.0		Thin beds of SANDSTONE located 81' to 46.0'				CARTON SAMPLES:	
46.0-48.0		Thin beds of SANDSTONE located 81' to 48.0'				1. 38.9-39.9	
48.0-50.0		Thin beds of SANDSTONE located 81' to 50.0'				2. 46.7-47.7	
50.0-52.0		Thin beds of SANDSTONE located 81' to 52.0'				3. 56.5-57.5	
52.0-54.0		Thin beds of SANDSTONE located 81' to 54.0'				WEATHERING:	
54.0-56.0		Thin beds of SANDSTONE located 81' to 56.0'				MAY SL. WEATH. TO 41.0'	
56.0-58.0		Thin beds of SANDSTONE located 81' to 58.0'				NOTE:	
58.0-59.1		Thin beds of SANDSTONE located 81' to 59.1'				SHALE IS HIGHLY EXPANDABLE FROM 360' - 400'	
59.1-59.1		T.D. 59.1'				- STARTED 6" CORE AT 35.0'	

[illegible]

SYN		DD	12	ACTION	DATE	SECRETARIAT OF REVISTA	
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>							
DESIGNED BY:		<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>					
DRAWN BY:		<p align="center">EMBANKMENT AND SPILLWAY</p>					
CHECKED BY:		<p align="center">LOGS OF BORINGS 8A6C-1, 2, 3 AND 8A-4</p>					
SUBMITTED BY:				INV. NO. DACW63-80-B-0085		DATED: AUG. 1983	
ENGINEER:				CONTR. NO. DACW63-80-B-0035		SEQUENCE NO.	
				DRAWING NUMBER		SHEET NO.	
				6-1		OF	
						126	

Made No. BACC-5

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		Southwestern		Fort Worth		1 of 2 SHEETS	
1. PROJECT		Aquila		2. SIZE AND TYPE OF BIT		6" CORE	
3. LOCATION (Continuation of Sheet)		Site-D		11. BIT FOR ELEVATION		100 FT. - 100	
4. DRILLING AGENCY		Corps of Engineers		12. MANUFACTURER'S DESIGNATION OF DRILL		Falling	
5. HOLE NO. (As shown on drawing)		BACC-5		13. TOTAL NO. OF CORES		0	
6. NAME OF DRILLER		Jones		14. TOTAL NUMBER CORE BOXES		0	
7. DIRECTION OF HOLE		VERTICAL		15. ELEVATION GROUND WATER		0.0	
8. THICKNESS OF OVERBURDEN		5.4'		16. DATE HOLE		17. DATE HOLE	
9. DEPTH DRILLED INTO ROCK		44.6'		18. ELEVATION TOP OF HOLE		527.4	
10. TOTAL DEPTH OF HOLE		60.0'		19. TOTAL CORE RECOVERY FOR BORING		88.2	
ELEVATION		DEPTH		LEGEND		CORRELATION	
0.0' to 5.4'		CLAY		A		1. 30.0' of plastic pipe put in hole water level 19.03 12 Jan. 73	
0.0' to 3.5'		Some sand grains, med. stiff, moist, drk. brwn to blk.		B		2. JARS:	
3.5' to 4.9'		Sli. sandy, v. stiff to hard, sli. moist, brwn.		D		A. 0.0' to 3.5'	
4.9' to 5.4'		Sli. sandy, stiff-v. stiff, sli. moist, some calc. nodules.				B. 3.5' to 4.9'	
5.4' to 10.0'		SANDSTONE				C. 4.9' to 5.4'	
10.0' to 14.0'		SANDY, dry-sli. moist, v. stiff, yel. brwn.				D. 5.4' to 10.0'	
14.0' to 14.3'		SANDSTONE				1. 11.3' to 12.3'	
14.3' to 14.7'		SANDSTONE				2. 17.0' to 18.0'	
14.7' to 15.0'		SANDSTONE				3. 23.7' to 24.7'	
15.0' to 17.5'		SANDSTONE				4. 29.4' to 30.4'	
17.5' to 18.0'		SANDSTONE				5. 36.5' to 37.5'	
18.0' to 18.5'		SANDSTONE				6. 43.2' to 44.2'	
18.5' to 19.0'		SANDSTONE				7. 51.7' to 52.7'	
19.0' to 19.5'		SANDSTONE				8. 57.5' to 58.5'	
19.5' to 20.0'		SANDSTONE				4. Shales weathered to the consistancy of a clay-shale to 39.0'.	
20.0' to 20.5'		SANDSTONE					
20.5' to 21.0'		SANDSTONE					
21.0' to 21.5'		SANDSTONE					
21.5' to 22.0'		SANDSTONE					
22.0' to 22.5'		SANDSTONE					
22.5' to 23.0'		SANDSTONE					
23.0' to 23.5'		SANDSTONE					
23.5' to 24.0'		SANDSTONE					
24.0' to 24.5'		SANDSTONE					
24.5' to 25.0'		SANDSTONE					
25.0' to 25.5'		SANDSTONE					
25.5' to 26.0'		SANDSTONE					
26.0' to 26.5'		SANDSTONE					
26.5' to 27.0'		SANDSTONE					
27.0' to 27.5'		SANDSTONE					
27.5' to 28.0'		SANDSTONE					
28.0' to 28.5'		SANDSTONE					
28.5' to 29.0'		SANDSTONE					
29.0' to 29.5'		SANDSTONE					
29.5' to 30.0'		SANDSTONE					
30.0' to 30.5'		SANDSTONE					
30.5' to 31.0'		SANDSTONE					
31.0' to 31.5'		SANDSTONE					
31.5' to 32.0'		SANDSTONE					
32.0' to 32.5'		SANDSTONE					
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36.5' to 37.0'		SANDSTONE					
37.0' to 37.5'		SANDSTONE					
37.5' to 38.0'		SANDSTONE					
38.0' to 38.5'		SANDSTONE					
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39.5' to 40.0'		SANDSTONE					
40.0' to 40.5'		SANDSTONE					
40.5' to 41.0'		SANDSTONE					
41.0' to 41.5'		SANDSTONE					
41.5' to 42.0'		SANDSTONE					
42.0' to 42.5'		SANDSTONE					
42.5' to 43.0'		SANDSTONE					
43.0' to 43.5'		SANDSTONE					
43.5' to 44.0'		SANDSTONE					
44.0' to 44.5'		SANDSTONE					
44.5' to 45.0'		SANDSTONE					
45.0' to 45.5'		SANDSTONE					
45.5' to 46.0'		SANDSTONE					
46.0' to 46.5'		SANDSTONE					
46.5' to 47.0'		SANDSTONE					
47.0' to 47.5'		SANDSTONE					
47.5' to 48.0'		SANDSTONE					
48.0' to 48.5'		SANDSTONE					
48.5' to 49.0'		SANDSTONE					
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66.5' to 67.0'		SANDSTONE					
67.0' to 67.5'		SANDSTONE					
67.5' to 68.0'		SANDSTONE					
68.0' to 68.5'		SANDSTONE					
68.5' to 69.0'		SANDSTONE					
69.0' to 69.5'		SANDSTONE					
69.5' to 70.0'		SANDSTONE					
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70.5' to 71.0'		SANDSTONE					
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71.5' to 72.0'		SANDSTONE					
72.0' to 72.5'		SANDSTONE					
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73.5' to 74.0'		SANDSTONE					
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74.5' to 75.0'		SANDSTONE					
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75.5' to 76.0'		SANDSTONE					
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76.5' to 77.0'		SANDSTONE					
77.0' to 77.5'		SANDSTONE					
77.5' to 78.0'		SANDSTONE					
78.0' to 78.5'		SANDSTONE					
78.5' to 79.0'		SANDSTONE					
79.0' to 79.5'		SANDSTONE					
79.5' to 80.0'		SANDSTONE					
80.0' to 80.5'		SANDSTONE					
80.5' to 81.0'		SANDSTONE					
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81.5' to 82.0'		SANDSTONE					
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85.5' to 86.0'		SANDSTONE					
86.0' to 86.5'		SANDSTONE					
86.5' to 87.0'		SANDSTONE					
87.0' to 87.5'		SANDSTONE					
87.5' to 88.0'		SANDSTONE					
88.0' to 88.5'		SANDSTONE					
88.5' to 89.0'		SANDSTONE					
89.0' to 89.5'		SANDSTONE					
89.5' to 90.0'		SANDSTONE					
90.0' to 90.5'		SANDSTONE					
90.5' to 91.0'		SANDSTONE					
91.0' to 91.5'		SANDSTONE					
91.5' to 92.0'		SANDSTONE					
92.0' to 92.5'		SANDSTONE					
92.5' to 93.0'		SANDSTONE					
93.0' to 93.5'		SANDSTONE					
93.5' to 94.0'		SANDSTONE					
94.0' to 94.5'		SANDSTONE					
94.5' to 95.0'		SANDSTONE					
95.0' to 95.5'		SANDSTONE					
95.5' to 96.0'		SANDSTONE					
96.0' to 96.5'		SANDSTONE					
96.5' to 97.0'		SANDSTONE					
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97.5' to 98.0'		SANDSTONE					
98.0' to 98.5'		SANDSTONE					
98.5' to 99.0'		SANDSTONE					
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101.5' to 102.0'		SANDSTONE					
102.0' to 102.5'		SANDSTONE					
102.5' to 103.0'		SANDSTONE					
103.0' to 103.5'		SANDSTONE					
103.5' to 104.0'		SANDSTONE					
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104.5' to 105.0'		SANDSTONE					
105.0' to 105.5'		SANDSTONE					
105.5' to 106.0'		SANDSTONE					
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106.5' to 107.0'		SANDSTONE					
107.0' to 107.5'		SANDSTONE					
107.5' to 108.0'		SANDSTONE					
108.0' to 108.5'		SANDSTONE					
108.5' to 109.0'		SANDSTONE					
109.0' to 109.5'		SANDSTONE					
109.5' to 110.0'		SANDSTONE					
110.0' to 110.5'		SANDSTONE					
110.5' to 111.0'		SANDSTONE					
111.0' to 111.5'		SANDSTONE					
111.5' to 112.0'		SANDSTONE					
112.0' to 112.5'		SANDSTONE					
112.5' to 113.0'		SANDSTONE					
113.0' to 113.5'		SANDSTONE					
113.5' to 114.0'		SANDSTONE					

Drilling Log Form GDC-9, showing details of a borehole at Aquilla Lake Spillway Embankment. The log includes sections for Project, Location, Drilling Agency, Borehole Data, and a detailed log of materials encountered at various depths. The materials are categorized by depth and include descriptions such as clay, shale, sandstone, and limestone. The log also includes a section for 'I. DRILLING' and 'II. SAMPLES'.

DEPTH	LOG	CLASSIFICATION OF MATERIALS	REMARKS
0.0 to 0.7	CLAY: W/SCAT. GRAVEL; MOIST: V. STIFF; NON-CALC. DARK BRN. - BLK.		
0.7 to 3.0	CLAY: CALC. W/ CALC. NODULES; SLT. MOIST: V. STIFF; BRN. - TAN		
3.0 to 4.6	CLAY: W/ CALICHE POCKETS; V. STIFF; CALC.; MOIST; MOD. FAT; TAN & WHITE		
4.6 to 13.1	SHALE: MOD. WEA.; W/ IRON STAINING IN SS SEAMS & PARTINGS; MOD. CALC.; SOFT; MOIST; SLT. FISSILE; W/SCAT. SS SEAMS, LENSES & PARTINGS; BRN. - RUST & LT. GRAY		
13.1 to 14.6	13.1-13.7: SOFT SS. 13.7-14.6: SOFT SS.		
14.6 to 15.7	14.6-15.7: MOD. HARD S.S. 15.7-16.2: MOD. HARD S.S.		
15.7 to 16.2	15.7-16.2: MOD. HARD S.S. 16.2-17.8: MOD. HARD S.S.		
16.2 to 17.8	16.2-17.8: MOD. HARD S.S. 17.8-18.8: MOD. HARD S.S.		
17.8 to 18.8	17.8-18.8: MOD. HARD S.S. 18.8-19.8: MOD. HARD S.S.		
18.8 to 19.8	18.8-19.8: MOD. HARD S.S. 19.8-20.2: MOD. HARD S.S.		
19.8 to 20.2	19.8-20.2: MOD. HARD S.S. 20.2-21.2: MOD. HARD S.S.		
20.2 to 21.2	20.2-21.2: MOD. HARD S.S. 21.2-22.2: MOD. HARD S.S.		
21.2 to 22.2	21.2-22.2: MOD. HARD S.S. 22.2-23.2: MOD. HARD S.S.		
22.2 to 23.2	22.2-23.2: MOD. HARD S.S. 23.2-24.2: MOD. HARD S.S.		
23.2 to 24.2	23.2-24.2: MOD. HARD S.S. 24.2-25.2: MOD. HARD S.S.		
24.2 to 25.2	24.2-25.2: MOD. HARD S.S. 25.2-26.2: MOD. HARD S.S.		
25.2 to 26.2	25.2-26.2: MOD. HARD S.S. 26.2-27.2: MOD. HARD S.S.		
26.2 to 27.2	26.2-27.2: MOD. HARD S.S. 27.2-28.2: MOD. HARD S.S.		
27.2 to 28.2	27.2-28.2: MOD. HARD S.S. 28.2-29.2: MOD. HARD S.S.		
28.2 to 29.2	28.2-29.2: MOD. HARD S.S. 29.2-30.0: MOD. HARD S.S.		
29.2 to 30.0	29.2-30.0: MOD. HARD S.S. 30.0-30.0: MOD. HARD S.S.		

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: AQUILLA LAKE
AQUILLA CREEK, TEXAS

DRAWN BY:

CHECKED BY:

LOGS OF BORINGS
8A6C-5, 7, 8 AND 6DC-9

SUBMITTED BY:

INV. NO. DACW63-80-B-0085 DATED: AUG. 1960

CONTR. NO. DACW63-81-C-0039

DRAWING NUMBER: 8-2 OF 107

SEQUENCE NO. 107

S BUILT

Drilling Log Form 1836 (Rev. 7-71) for Project AQUILA LAKE, SWD, FWD, 8AGC-10. The log details a 10' flight auger boring from 0.0' to 26.8' depth. Key findings include sandstone, shale, and clay layers, with a water level at 23.5'. The log is signed by J. K. R. and dated 14 MAY 73.

DEPTH	DESCRIPTION	REMARKS
0.0 - 2.2	CLAY: MOD. WEAK, NON-CALC.; W/ SCAT. GRAVEL, V. STIFF; BLK. DOWN TO DARK BRN.	
2.2 - 4.9	CLAY: CALC. W/ CALICHE POCKETS; SLT. MOIST, V. STIFF, TAN-BRN.	
4.9 - 6.2	SANDSTONE: WEA. SOFT TO MOD. HARD; MOIST; TAN (NOTE: LOGGED FROM ROCK-B.T. REACTION)	
6.2 - 7.3	SHALE: HIGHLY WEA.; CLAYEY; MOIST; SOFT; CALC.; RUSTY TAN	
7.3 - 7.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
7.8 - 10.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
10.8 - 13.7	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
13.7 - 14.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
14.8 - 18.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
18.8 - 21.6	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
21.6 - 22.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
22.8 - 25.6	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
25.6 - 26.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	

Drilling Log Form 1836 (Rev. 7-71) for Project AQUILA LAKE, SWD, FWD, 8AGC-11. The log details a 10' flight auger boring from 0.0' to 33.2' depth. Key findings include sandstone, shale, and clay layers, with a water level at 23.5'. The log is signed by J. K. R. and dated 14 MAY 73.

DEPTH	DESCRIPTION	REMARKS
0.0 - 2.2	CLAY: MOD. WEAK, NON-CALC.; W/ SCAT. GRAVEL, V. STIFF; BLK. DOWN TO DARK BRN.	
2.2 - 4.9	CLAY: CALC. W/ CALICHE POCKETS; SLT. MOIST, V. STIFF, TAN-BRN.	
4.9 - 6.2	SANDSTONE: WEA. SOFT TO MOD. HARD; MOIST; TAN (NOTE: LOGGED FROM ROCK-B.T. REACTION)	
6.2 - 7.3	SHALE: HIGHLY WEA.; CLAYEY; MOIST; SOFT; CALC.; RUSTY TAN	
7.3 - 7.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
7.8 - 10.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
10.8 - 13.7	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
13.7 - 14.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
14.8 - 18.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
18.8 - 21.6	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
21.6 - 22.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
22.8 - 25.6	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
25.6 - 26.8	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
26.8 - 29.2	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
29.2 - 31.6	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	
31.6 - 33.2	SHALE: HIGHLY WEA. DOWN TO SLT. WEA.; W/ IRON STAINS; W/ SANDY SEAMS & S.S. SEAMS; SOFT; MOIST; ESS. NON-CALC.; LT. GRAY W/ RUST DOWN TO LT. BLUE GRAY	

Drilling Log Form BACC-11

PROJECT: SWD
 LOCATION: AQUILLA LAKE-SPILLWAY FOUNDATION
 DRILLING AGENCY: SCE
 DATE: MAY 75
 HOLE NO.: BACC-11
 ELEVATION: 1500
 DEPTH: 31.8'

CLASSIFICATION OF MATERIALS (Descriptive)

0.0' to 5.3' CLAY: MOD. CALC.; MOIST; STIFF TO V. STIFF; DARK BRN. BLK. DOWN TO BRN. 0.0'-2.4' BK. BRN. BLK. 2.4'-5.3' BRN.

5.3' to 6.9' CLAY: W/ TRACES OF SAND; V. MOIST; SL. CALC.; STIFF; TAN-BRN.

6.9' to 17.1' SHALE: HIGHLY WEAL; CALC. CLAY; W/ SMALL CALC. NODULES & FRACTURES; MOIST; SOFT; SL. FISSILE; W/ SANDY STREAKS; W/ IRON STAINING; TAN & LT. GRAY TO LT. BLUE GRAY.

17.1' to 25.6' SANDSTONE: WEAL; MOIST; SOFT TO MOD. HARD; NON-CALC.; TAN & LT. GRAY. 17.1'-17.7' CEMENTED MOD. HARD LT. GRAY SS. 17.7'-18.3' SANDY CLAY w/ RED IRON STAINING. 18.3'-21.6' SOFT SS. 20.6'-23.5' SOFT SS INTERBEDDED w/ SOFT SHALE, w/ RED PURPLE STAINING.

25.6' to 30.3' SHALE: MOD. WEAL; DOWN TO UNWEAL; NON-CALC.; FISSILE; SOFT; MOIST; W/ SEAT SAND; SS. LENSES & PARTINGS; DARK GRAY BLK. 25.6'-25.8' w/ RUST STAINING. 25.8'-27.7' SOFT SS. 27.7'-29.8' SOFT SS.

30.3' to 35.1' SANDSTONE: UNWEAL; NON-CALC.; SOFT; MOIST; SHALE; WEAKLY CEMENTED; DARK GRAY.

35.1' to 36.3' Lignite PARTING.

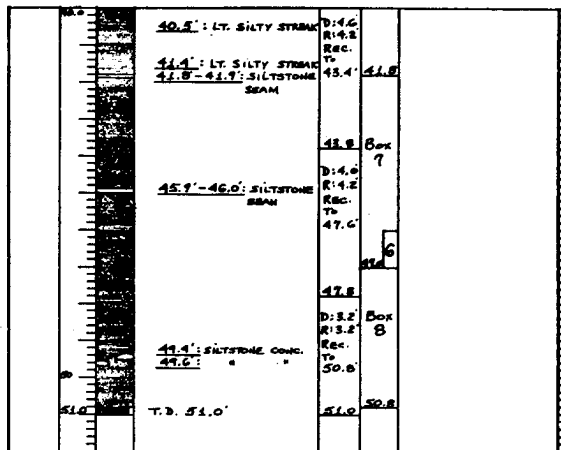
36.3' to 37.1' SHALE: UNWEAL; NON-CALC.; FISSILE; SOFT; MOIST; DARK GRAY.

37.1' to 38.3' SILTSTONE CONC.

38.3' to 39.2' SILTSTONE LAMINATIONS.

39.2' TIGHT JOINT.

31.8' T.D.



Drilling Log Form BACC-12

PROJECT: SWD
 LOCATION: AQUILLA LAKE-SPILLWAY FOUNDATION
 DRILLING AGENCY: SCE
 DATE: MAY 75
 HOLE NO.: BACC-12
 ELEVATION: 1500
 DEPTH: 31.8'

CLASSIFICATION OF MATERIALS (Descriptive)

0.0' to 1.5' CLAY: NON-CALC.; W/ GRAVEL; MOIST; STIFF; V. STIFF; DARK BRN. 1.5' to 3.2' CLAY: MOD. CALC. w/ NODULES; MOIST; V. DARK BRN. 3.2' to 6.8' CLAY: CALC. w/ CALC. w/ CALICHE POCKET; MOIST; V. STIFF; TAN.

6.8' to 11.0' SANDSTONE: MOD. w/ INTERBEDDED SHALES; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, R. 11.0' to 18.8' SHALE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 18.8' to 20.6' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 20.6' to 23.5' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 23.5' to 25.6' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 25.6' to 27.7' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 27.7' to 29.8' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY. 29.8' to 31.8' SANDSTONE: MOD. WEAL; CALC. CLAY; W/ IRON STAINING; TAN & LT. GRAY.

31.8' T.D.

RECORD DRAWING-WORK AS BUILT

EMBAN

BORING LOG		SWD		INSTALLATION		FWD	
PROJECT: AQUILLA LAKE-SPILLWAY EMBANKMENT				1. HES AND TYPE OF BY: G. CARPOLY			
2. LOCATION (Coordinate or Station)				3. DATE FOR ELEVATION DETERMINATION: 1960			
4. DRILLING AGENCY: USCE-C				5. MSL			
6. DATE OF LOG: 1 MAY 73				7. ELEVATION OF SURFACE OF DRILL: 1500			
8. NAME OF DRILLER: T. SUITS				9. TOTAL NUMBER OF CORES: 3			
10. THICKNESS OF OVERBURDEN: 6.8'				11. ELEVATION GROUND WATER: 1500			
12. DEPTH DRILLED INTO ROCK: 25.0'				13. DATE HOLE STARTED: 1 MAY 73			
14. TOTAL DEPTH OF HOLE: 31.8'				15. DATE HOLE COMPLETED: 2 MAY 73			
16. ELEVATION TOP OF HOLE: 534.7				17. TOTAL CORE RECOVERY FOR BORING: 83			
18. SIGNATURE OF INSPECTOR: [Signature]				19. SIGNATURE OF DRILLER: [Signature]			
20. CLASSIFICATION OF MATERIALS (Standard)				21. REMARKS			
0.0' TO 1.5' CLAY: NON-CALC.; W/SCAT. GRAVEL; MOIST; STIFF TO V. STIFF; DARK BRN.-BLK. 1.5' TO 3.2' CLAY: MOD. CALC. W/ CALC. NODULES; MOIST; V. STIFF; DARK BRN. 3.2' TO 6.8' CLAY: CALC. W/ CALC. NODULES; W/ CALC. POCKETS; MOIST; V. STIFF; TAN-BRN. 6.8' TO 11.0' SANDSTONE: MOD. WEA.; W/ INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUSTY YELLOW 11.0' TO 14.8' SANDSTONE: MOD. WEA.; W/ INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, TAN & YELLOW 14.8' TO 18.8' SANDSTONE: MOD. WEA.; W/ INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, TAN & YELLOW 18.8' TO 22.8' SANDSTONE: MOD. WEA.; W/ INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, TAN & YELLOW 22.8' TO 26.7' SANDSTONE: MOD. WEA.; W/ INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, TAN & YELLOW 26.7' TO 31.8' T.D. 31.8'				I. DRILLING: 10' FLIGHT AUGER: 0.0' - 6.8' NOTE: HAD AUGER REFUSAL AT 6.8' 6.8' CORE BARREL: 6.8' - 31.8' NOTE: COULD NOT BEGIN CORING BEFORE 6.8' BECAUSE OF LOW CORE BARREL. II. SAMPLES: DISTURBED (JARS): A: 0.0' - 1.5' B: 1.5' - 3.2' C: 3.2' - 6.8' UNDISTURBED (CARTRON): C-1: 12.7' - 13.7' C-2: 16.4' - 17.2' C-3: 29.8' - 30.7' NOTE: UNABLE TO OBTAIN ADDITIONAL CARTRON SAMPLES BECAUSE OF BREAKS IN THE CORE. III. WATER LEVEL: * BORING WAS BULLED TO 29.8' ON 2 MAY. WATER LEVEL AFTER 24 HRS. WAS 6.2' 2" PERF. PLASTIC PIPE TO BE PLACED TO T.D. AFTER E-LOGGING AT A LATER DATE. Box 1 Box 2 Box 3 Box 4 Box 5 Box 6 Box 7 Box 8 Box 9 Box 10 Box 11 Box 12 Box 13 Box 14 Box 15 Box 16 Box 17 Box 18 Box 19 Box 20 Box 21 Box 22 Box 23 Box 24 Box 25 Box 26 Box 27 Box 28 Box 29 Box 30 Box 31 Box 32 Box 33 Box 34 Box 35 Box 36 Box 37 Box 38 Box 39 Box 40 Box 41 Box 42 Box 43 Box 44 Box 45 Box 46 Box 47 Box 48 Box 49 Box 50 Box 51 Box 52 Box 53 Box 54 Box 55 Box 56 Box 57 Box 58 Box 59 Box 60 Box 61 Box 62 Box 63 Box 64 Box 65 Box 66 Box 67 Box 68 Box 69 Box 70 Box 71 Box 72 Box 73 Box 74 Box 75 Box 76 Box 77 Box 78 Box 79 Box 80 Box 81 Box 82 Box 83 Box 84 Box 85 Box 86 Box 87 Box 88 Box 89 Box 90 Box 91 Box 92 Box 93 Box 94 Box 95 Box 96 Box 97 Box 98 Box 99 Box 100 Box 101 Box 102 Box 103 Box 104 Box 105 Box 106 Box 107 Box 108 Box 109 Box 110 Box 111 Box 112 Box 113 Box 114 Box 115 Box 116 Box 117 Box 118 Box 119 Box 120 Box 121 Box 122 Box 123 Box 124 Box 125 Box 126 Box 127 Box 128 Box 129 Box 130 Box 131 Box 132 Box 133 Box 134 Box 135 Box 136 Box 137 Box 138 Box 139 Box 140 Box 141 Box 142 Box 143 Box 144 Box 145 Box 146 Box 147 Box 148 Box 149 Box 150 Box 151 Box 152 Box 153 Box 154 Box 155 Box 156 Box 157 Box 158 Box 159 Box 160 Box 161 Box 162 Box 163 Box 164 Box 165 Box 166 Box 167 Box 168 Box 169 Box 170 Box 171 Box 172 Box 173 Box 174 Box 175 Box 176 Box 177 Box 178 Box 179 Box 180 Box 181 Box 182 Box 183 Box 184 Box 185 Box 186 Box 187 Box 188 Box 189 Box 190 Box 191 Box 192 Box 193 Box 194 Box 195 Box 196 Box 197 Box 198 Box 199 Box 200 Box 201 Box 202 Box 203 Box 204 Box 205 Box 206 Box 207 Box 208 Box 209 Box 210 Box 211 Box 212 Box 213 Box 214 Box 215 Box 216 Box 217 Box 218 Box 219 Box 220 Box 221 Box 222 Box 223 Box 224 Box 225 Box 226 Box 227 Box 228 Box 229 Box 230 Box 231 Box 232 Box 233 Box 234 Box 235 Box 236 Box 237 Box 238 Box 239 Box 240 Box 241 Box 242 Box 243 Box 244 Box 245 Box 246 Box 247 Box 248 Box 249 Box 250 Box 251 Box 252 Box 253 Box 254 Box 255 Box 256 Box 257 Box 258 Box 259 Box 260 Box 261 Box 262 Box 263 Box 264 Box 265 Box 266 Box 267 Box 268 Box 269 Box 270 Box 271 Box 272 Box 273 Box 274 Box 275 Box 276 Box 277 Box 278 Box 279 Box 280 Box 281 Box 282 Box 283 Box 284 Box 285 Box 286 Box 287 Box 288 Box 289 Box 290 Box 291 Box 292 Box 293 Box 294 Box 295 Box 296 Box 297 Box 298 Box 299 Box 300 Box 301 Box 302 Box 303 Box 304 Box 305 Box 306 Box 307 Box 308 Box 309 Box 310 Box 311 Box 312 Box 313 Box 314 Box 315 Box 316 Box 317 Box 318 Box 319 Box 320 Box 321 Box 322 Box 323 Box 324 Box 325 Box 326 Box 327 Box 328 Box 329 Box 330 Box 331 Box 332 Box 333 Box 334 Box 335 Box 336 Box 337 Box 338 Box 339 Box 340 Box 341 Box 342 Box 343 Box 344 Box 345 Box 346 Box 347 Box 348 Box 349 Box 350 Box 351 Box 352 Box 353 Box 354 Box 355 Box 356 Box 357 Box 358 Box 359 Box 360 Box 361 Box 362 Box 363 Box 364 Box 365 Box 366 Box 367 Box 368 Box 369 Box 370 Box 371 Box 372 Box 373 Box 374 Box 375 Box 376 Box 377 Box 378 Box 379 Box 380 Box 381 Box 382 Box 383 Box 384 Box 385 Box 386 Box 387 Box 388 Box 389 Box 390 Box 391 Box 392 Box 393 Box 394 Box 395 Box 396 Box 397 Box 398 Box 399 Box 400 Box 401 Box 402 Box 403 Box 404 Box 405 Box 406 Box 407 Box 408 Box 409 Box 410 Box 411 Box 412 Box 413 Box 414 Box 415 Box 416 Box 417 Box 418 Box 419 Box 420 Box 421 Box 422 Box 423 Box 424 Box 425 Box 426 Box 427 Box 428 Box 429 Box 430 Box 431 Box 432 Box 433 Box 434 Box 435 Box 436 Box 437 Box 438 Box 439 Box 440 Box 441 Box 442 Box 443 Box 444 Box 445 Box 446 Box 447 Box 448 Box 449 Box 450 Box 451 Box 452 Box 453 Box 454 Box 455 Box 456 Box 457 Box 458 Box 459 Box 460 Box 461 Box 462 Box 463 Box 464 Box 465 Box 466 Box 467 Box 468 Box 469 Box 470 Box 471 Box 472 Box 473 Box 474 Box 475 Box 476 Box 477 Box 478 Box 479 Box 480 Box 481 Box 482 Box 483 Box 484 Box 485 Box 486 Box 487 Box 488 Box 489 Box 490 Box 491 Box 492 Box 493 Box 494 Box 495 Box 496 Box 497 Box 498 Box 499 Box 500 Box 501 Box 502 Box 503 Box 504 Box 505 Box 506 Box 507 Box 508 Box 509 Box 510 Box 511 Box 512 Box 513 Box 514 Box 515 Box 516 Box 517 Box 518 Box 519 Box 520 Box 521 Box 522 Box 523 Box 524 Box 525 Box 526 Box 527 Box 528 Box 529 Box 530 Box 531 Box 532 Box 533 Box 534 Box 535 Box 536 Box 537 Box 538 Box 539 Box 540 Box 541 Box 542 Box 543 Box 544 Box 545 Box 546 Box 547 Box 548 Box 549 Box 550 Box 551 Box 552 Box 553 Box 554 Box 555 Box 556 Box 557 Box 558 Box 559 Box 560 Box 561 Box 562 Box 563 Box 564 Box 565 Box 566 Box 567 Box 568 Box 569 Box 570 Box 571 Box 572 Box 573 Box 574 Box 575 Box 576 Box 577 Box 578 Box 579 Box 580 Box 581 Box 582 Box 583 Box 584 Box 585 Box 586 Box 587 Box 588 Box 589 Box 590 Box 591 Box 592 Box 593 Box 594 Box 595 Box 596 Box 597 Box 598 Box 599 Box 600 Box 601 Box 602 Box 603 Box 604 Box 605 Box 606 Box 607 Box 608 Box 609 Box 610 Box 611 Box 612 Box 613 Box 614 Box 615 Box 616 Box 617 Box 618 Box 619 Box 620 Box 621 Box 622 Box 623 Box 624 Box 625 Box 626 Box 627 Box 628 Box 629 Box 630 Box 631 Box 632 Box 633 Box 634 Box 635 Box 636 Box 637 Box 638 Box 639 Box 640 Box 641 Box 642 Box 643 Box 644 Box 645 Box 646 Box 647 Box 648 Box 649 Box 650 Box 651 Box 652 Box 653 Box 654 Box 655 Box 656 Box 657 Box 658 Box 659 Box 660 Box 661 Box 662 Box 663 Box 664 Box 665 Box 666 Box 667 Box 668 Box 669 Box 670 Box 671 Box 672 Box 673 Box 674 Box 675 Box 676 Box 677 Box 678 Box 679 Box 680 Box 681 Box 682 Box 683 Box 684 Box 685 Box 686 Box 687 Box 688 Box 689 Box 690 Box 691 Box 692 Box 693 Box 694 Box 695 Box 696 Box 697 Box 698 Box 699 Box 700 Box 701 Box 702 Box 703 Box 704 Box 705 Box 706 Box 707 Box 708 Box 709 Box 710 Box 711 Box 712 Box 713 Box 714 Box 715 Box 716 Box 717 Box 718 Box 719 Box 720 Box 721 Box 722 Box 723 Box 724 Box 725 Box 726 Box 727 Box 728 Box 729 Box 730 Box 731 Box 732 Box 733 Box 734 Box 735 Box 736 Box 737 Box 738 Box 739 Box 740 Box 741 Box 742 Box 743 Box 744 Box 745 Box 746 Box 747 Box 748 Box 749 Box 750 Box 751 Box 752 Box 753 Box 754 Box 755 Box 756 Box 757 Box 758 Box 759 Box 760 Box 761 Box 762 Box 763 Box 764 Box 765 Box 766 Box 767 Box 768 Box 769 Box 770 Box 771 Box 772 Box 773 Box 774 Box 775 Box 776 Box 777 Box 778 Box 779 Box 780 Box 781 Box 782 Box 783 Box 784 Box 785 Box 786 Box 787 Box 788 Box 789 Box 790 Box 791 Box 792 Box 793 Box 794 Box 795 Box 796 Box 797 Box 798 Box 799 Box 800 Box 801 Box 802 Box 803 Box 804 Box 805 Box 806 Box 807 Box 808 Box 809 Box 810 Box 811 Box 812 Box 813 Box 814 Box 815 Box 816 Box 817 Box 818 Box 819 Box 820 Box 821 Box 822 Box 823 Box 824 Box 825 Box 826 Box 827 Box 828 Box 829 Box 830 Box 831 Box 832 Box 833 Box 834 Box 835 Box 836 Box 837 Box 838 Box 839 Box 840 Box 841 Box 842 Box 843 Box 844 Box 845 Box 846 Box 847 Box 848 Box 849 Box 850 Box 851 Box 852 Box 853 Box 854 Box 855 Box 856 Box 857 Box 858 Box 859 Box 860 Box 861 Box 862 Box 863 Box 864 Box 865 Box 866 Box 867 Box 868 Box 869 Box 870 Box 871 Box 872 Box 873 Box 874 Box 875 Box 876 Box 877 Box 878 Box 879 Box 880 Box 881 Box 882 Box 883 Box 884 Box 885 Box 886 Box 887 Box 888 Box 889 Box 890 Box 891 Box 892 Box 893 Box 894 Box 895 Box 896 Box 897 Box 898 Box 899 Box 900 Box 901 Box 902 Box 903 Box 904 Box 905 Box 906 Box 907 Box 908 Box 909 Box 910 Box 911 Box 912 Box 913 Box 914 Box 915 Box 916 Box 917 Box 918 Box 919 Box 920 Box 921 Box 922 Box 923 Box 924 Box 925 Box 926 Box 927 Box 928 Box 929 Box 930 Box 931 Box 932 Box 933 Box 934 Box 935 Box 936 Box 937 Box 938 Box 939 Box 940 Box 941 Box 942 Box 943 Box 944 Box 945 Box 946 Box 947 Box 948 Box 949 Box 950 Box 951 Box 952 Box 953 Box 954 Box 955 Box 956 Box 957 Box 958 Box 959 Box 960 Box 961 Box 962 Box 963 Box 964 Box 965 Box 966 Box 967 Box 968 Box 969 Box 970 Box 971 Box 972 Box 973 Box 974 Box 975 Box 976 Box 977 Box 978 Box 979 Box 980 Box 981 Box 982 Box 983 Box 984 Box 985 Box 986 Box 987 Box 988 Box 989 Box 990 Box 991 Box 992 Box 993 Box 994 Box 995 Box 996 Box 997 Box 998 Box 999 Box 1000			

REV. NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY:

AQUILLA LAKE
AQUILLA CREEK, TEXAS

DRAWN BY:

EMBANKMENT AND SPILLWAY

CHECKED BY:

LOGS OF BORINGS
8A6C-10, 11 AND 12

SUBMITTED BY:

INV. NO. DACW63-80-B-0085 DATED: AUG. 1980

ENGINEER:

CONTR. NO. DACW63-81-C-0035

DRAWING NUMBER

SHEET NO.

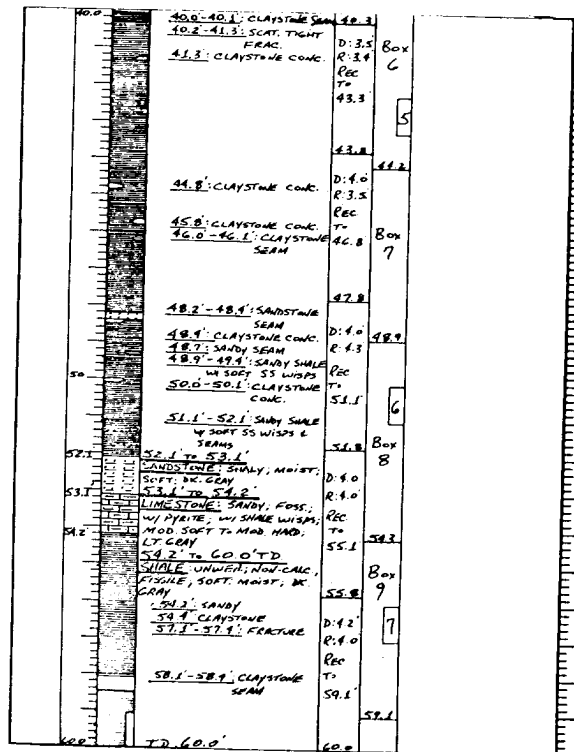
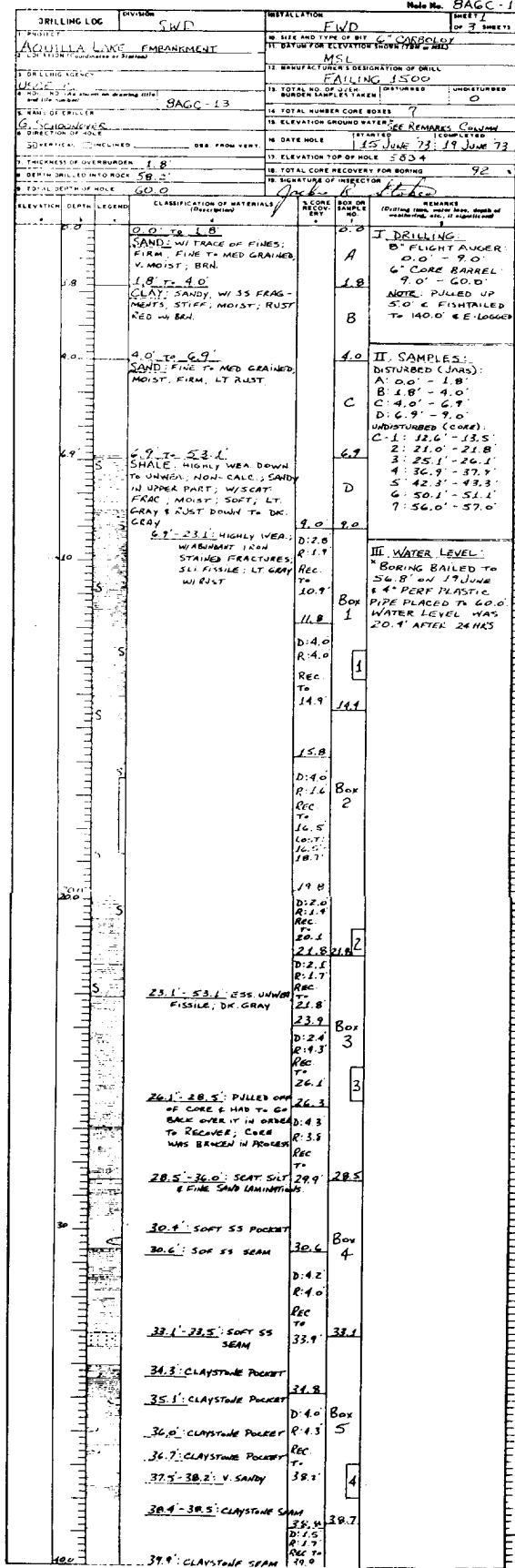
8-3 OF

SEQUENCE NO.

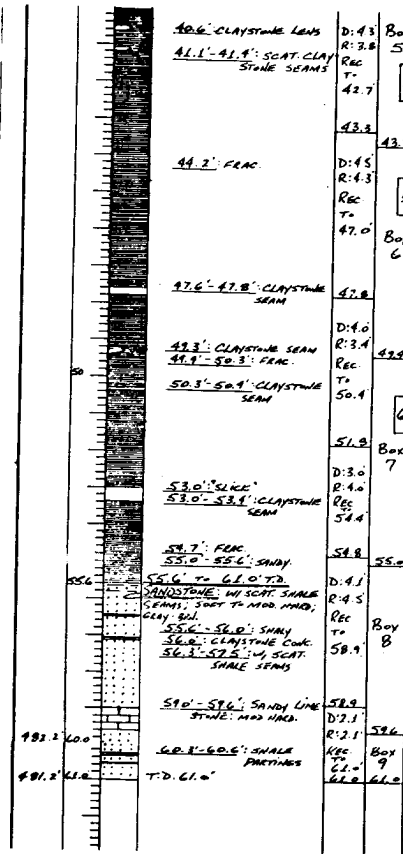
108

RECORD DRAWING-WORK AS BUILT

CONTR. NO. DACW63-81-C-0035



DRILLING LOG		DIVISION		REVOLUTION		DATE		SHEET	
PROJECT		SWD		FWD		6DC-14		SHEET 1	
LOCATION		AQUILLA LAKE EMERGENCY		DATE FOR ELEVATION		6" CARDOLOGY		OF 2 SHEETS	
X: 2,044 E55 Y: 84 B05				MANUFACTURE		DEGRADATION OF DRILL			
S DRILLING AGENCY		USOE		FALLING 1500					
A. HOLE NO. (AS SHOWN ON DRILLING PLAN)		C0DC-14		TOTAL NO. OF OVERBURDEN SAMPLES TAKEN		7		UNDISTURBED	
B. NAME OF DRILLER		T. SUITS		ELEVATION BOUNDS WATER		24 JUNE 73: 25 JUNE 73		542.2	
C. DIRECTION OF HOLE		INCLINED _____ DEG. FROM VERT.		DATE HOLE		STARTED		COMPLETED	
D. THICKNESS OF OVERBURDEN		15.6'		ELEVATION TOP OF HOLE		542.2			
E. DEPTH DRILLED INTO ROCK		45.4'		TOTAL CORE RECOVERY FOR HOLE		100%			
F. TOTAL DEPTH OF HOLE		61.0'		SIGNATURE OF INSPECTOR		JACKIE B. BAKER			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS	REMARKS
542.2	0.0'		CLAY, MOIST; STIFF; Root Sand, BLK.	I. DRILLING					
	2.6'		CLAY, MOIST; V. STIFF; DR. BH.	A. 0.0' - 2.6'					
	5.6'		CLAY, MOIST; HARD; CAC. TAN.	B. 2.6' - 5.6'					
	8.6'		CLAY, MOIST; HARD; CAC. TAN.	C. 5.6' - 8.6'					
	11.6'		CLAY, MOIST; HARD; CAC. TAN.	D. 8.6' - 11.6'					
	14.6'		CLAY, MOIST; HARD; CAC. TAN.	E. 11.6' - 14.6'					
	17.6'		CLAY, MOIST; HARD; CAC. TAN.	F. 14.6' - 17.6'					
	20.6'		CLAY, MOIST; HARD; CAC. TAN.	G. 17.6' - 20.6'					
	23.6'		CLAY, MOIST; HARD; CAC. TAN.	H. 20.6' - 23.6'					
	26.6'		CLAY, MOIST; HARD; CAC. TAN.	I. 23.6' - 26.6'					
	29.6'		CLAY, MOIST; HARD; CAC. TAN.	J. 26.6' - 29.6'					
	32.6'		CLAY, MOIST; HARD; CAC. TAN.	K. 29.6' - 32.6'					
	35.6'		CLAY, MOIST; HARD; CAC. TAN.	L. 32.6' - 35.6'					
	38.6'		CLAY, MOIST; HARD; CAC. TAN.	M. 35.6' - 38.6'					
	41.6'		CLAY, MOIST; HARD; CAC. TAN.	N. 38.6' - 41.6'					
	44.6'		CLAY, MOIST; HARD; CAC. TAN.	O. 41.6' - 44.6'					
	47.6'		CLAY, MOIST; HARD; CAC. TAN.	P. 44.6' - 47.6'					
	50.6'		CLAY, MOIST; HARD; CAC. TAN.	Q. 47.6' - 50.6'					
	53.6'		CLAY, MOIST; HARD; CAC. TAN.	R. 50.6' - 53.6'					
	56.6'		CLAY, MOIST; HARD; CAC. TAN.	S. 53.6' - 56.6'					
	59.6'		CLAY, MOIST; HARD; CAC. TAN.	T. 56.6' - 59.6'					
	62.6'		CLAY, MOIST; HARD; CAC. TAN.	U. 59.6' - 62.6'					
	65.6'		CLAY, MOIST; HARD; CAC. TAN.	V. 62.6' - 65.6'					
	68.6'		CLAY, MOIST; HARD; CAC. TAN.	W. 65.6' - 68.6'					
	71.6'		CLAY, MOIST; HARD; CAC. TAN.	X. 68.6' - 71.6'					
	74.6'		CLAY, MOIST; HARD; CAC. TAN.	Y. 71.6' - 74.6'					
	77.6'		CLAY, MOIST; HARD; CAC. TAN.	Z. 74.6' - 77.6'					
	80.6'		CLAY, MOIST; HARD; CAC. TAN.	AA. 77.6' - 80.6'					
	83.6'		CLAY, MOIST; HARD; CAC. TAN.	AB. 80.6' - 83.6'					
	86.6'		CLAY, MOIST; HARD; CAC. TAN.	AC. 83.6' - 86.6'					
	89.6'		CLAY, MOIST; HARD; CAC. TAN.	AD. 86.6' - 89.6'					
	92.6'		CLAY, MOIST; HARD; CAC. TAN.	AE. 89.6' - 92.6'					
	95.6'		CLAY, MOIST; HARD; CAC. TAN.	AF. 92.6' - 95.6'					
	98.6'		CLAY, MOIST; HARD; CAC. TAN.	AG. 95.6' - 98.6'					
	101.6'		CLAY, MOIST; HARD; CAC. TAN.	AH. 98.6' - 101.6'					



RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS</p> <p align="center">CORPS OF ENGINEERS</p> <p align="center">FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE</p> <p align="center">AQUILLA CREEK, TEXAS</p> <p align="center">EMBANKMENT AND SLOPE</p> <p align="center">LOGS OF BORINGS</p> <p align="center">BA6C-13 AND 6DC</p>		
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:			
ENGINEER:	<p align="center">CONTR. NO. DACWG330</p> <p align="center">DRAWING NUMBER</p>		

TO ACCOMPANY FINAL FOUNDATION REPORT

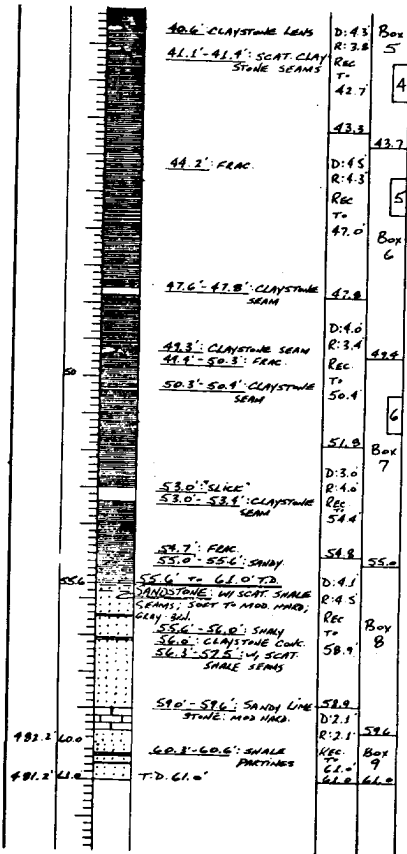
DRAWING NO. **6DC-14**
 SHEET **1** OF **4** SHEETS
 E AND TYPE OF SOIL **6" CARBOLLOY**
 FOR THE ELEVATION **1500**
 MSL
 HORIZONTAL DISTANCE OF DRILL
FAILING 1500
 TOTAL NO. OF CORES **7** (UNDISTURBED)
 TOTAL NUMBER CORE BOXES **7**
 ELEVATION OF WATER **REMARKS: COLUMN**
 IS HOLE **24 JUNE 73** (COMPLETED)
 ELEVATION TOP OF HOLE **542.2**
 TOTAL CORE RECOVERY FOR BORING **100%**
 NATURE OF INSPECTION **Visual**
 1. CORE NO. **1**
 2. BOX OR SAMPLE NO. **1**
 3. REMARKS
 (Drilling logs, water level, depth of penetration, etc., if applicable)

I. DRILLING:
B. PLANT AUGER:
 0.0' - 2.0'
 2.0' - 16.0'
 16.0' - 61.0'

II. SAMPLES:
 DISTURBED (JARS):
 A. 0.0' - 2.0'
 B. 2.0' - 6.0'
 C. 6.0' - 10.0'
 D. 10.0' - 12.0'
 E. 12.0' - 14.0'
 F. 14.0' - 16.0'
 G. 16.0' - 18.0'
 H. 18.0' - 20.0'
 UNDISTURBED (DEEPSW):
 DB 1. 2.0' - 6.0'
 DB 2. 6.0' - 10.0'
 DB 3. 10.0' - 12.0'
 DB 4. 12.0' - 14.0'
 DB 5. 14.0' - 16.0'
 DB 6. 16.0' - 18.0'
 DB 7. 18.0' - 20.0'
 UNDISTURBED (CORES):
 C. 1. 12.0' - 18.0'
 2. 20.0' - 30.0'
 3. 30.0' - 37.0'
 4. 41.0' - 42.0'
 5. 45.0' - 45.5'
 6. 50.0' - 51.0'

III. WATER LEVEL:
 DB 6. BENCH MARKED TO
 54.0' - 25 JUNE 73;
 2" DEEP PLASTIC PIPE
 WAS PLACED TO C.I. 0'
 WATER LEVEL AFTER
 24 HOURS 54.1'

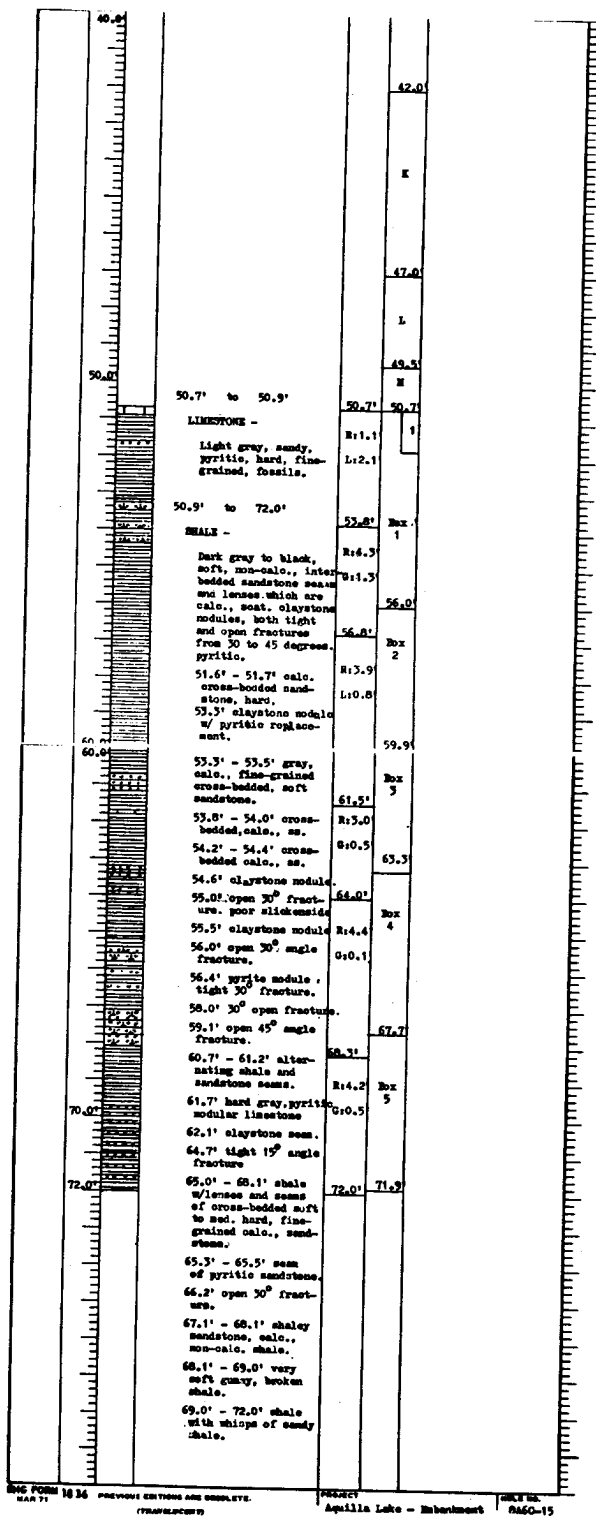
DB 7 (4.5)
 DB 8 (4.5)
 DB 9 (4.5)
 DB 10 (4.5)
 DB 11 (4.5)
 DB 12 (4.5)
 DB 13 (4.5)
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 DB 96 (4.5)
 DB 97 (4.5)
 DB 98 (4.5)
 DB 99 (4.5)
 DB 100 (4.5)



RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS BAGC-13 AND 6DC-14		
SUBMITTED BY:	INV. NO. DACHW 63-80-8-0085	DATED: AUG. 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACHW 63-80-8-0085	SHEET NO. 109	109
	DRAWING NUMBER	B-4 OF	

DRILLING LOG		SECTION	INSTALLATION	DATE	NO. OF SHEETS
1. PROJECT		SWD	FED	10/10/73	1 of 4 sheets
2. LOCATION (Continued on Sheet 2)		3. MANUFACTURER'S DESIGNATION OF DRILL			
4. DRILLING AGENCY		4. DATE MOLE			
5. NAME OF DRILLER		6. DATE MOLE			
6. DIRECTION OF MOLE		7. ELEVATION TOP OF MOLE			
7. THICKNESS OF OVERBURDEN		8. TOTAL CORE RECOVERY FOR BORING			
8. DEPTH DRILLED INTO ROCK		9. SIGNATURE OF SUPERVISOR			
9. TOTAL DEPTH OF MOLE		10. REMARKS			
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS	1. CORE	2. SOIL
0.0'	0.0'		0.0' to 22.5'	0.0'	
			CLAY -		
			0.0' - 5.0' Olive gray brown, all. stiff, moist, med. plasticity, silty, all. sandy, all. calc., scat. tan size caliche.	A	1. 8" Flight Auger 0.0' - 49.7'
			5.0' - 6.0' Olive gray brown, high plasticity, stiff, moist, calc., hard caliche nodules to 1 cm., pockets of tan color.	5.0'	7" 8" Rockbit 49.7' - 50.7'
			6.0' - 11.0' Tan, very stiff, sandy, silty, moist, med. plasticity, calc., scat. hard caliche nodules to 1 cm., also powdery caliche.	6.0'	6" Core Barrel 50.7' - 72.0'
			11.0' - 16.0' Olive tan, sandy, moist, silty, med. plasticity, calc., scat. black coarse sand size chert, some minor caliche.	C	Casing set to 49.7'
			16.0' - 19.0' Orange-tan, gray streaks, stiff, sandy, silty, moist, low to medium plasticity, all. calc.	11.0'	2. Jars:
			19.0' - 22.5' Tan and gray, hard, silty, calc., becoming silty, sandy at 22.0'.		A: 0.0' - 5.0'
			22.5' to 49.5'		B: 5.0' - 6.0'
			SAND -		C: 6.0' - 11.0'
			22.5' - 27.5' Tan, wet, low plasticity, silty, loose, calc.		D: 11.0' - 16.0'
			27.5' - 33.0' Tan, moist, silty, calc., low plasticity, loose, scat pebbles.		E: 16.0' - 19.0'
			33.0' - 37.0' Tan, loose, moist, clayey, low plasticity, calc., gravel and large cobbles present.		F: 19.0' - 22.5'
			SAND - (contd.)		G: 22.5' - 27.5'
			37.0' - 42.0' Tan, wet, loose, silty, calc., low plasticity, silty, heavy gravel to 39.0'		H: 27.5' - 33.0'
			42.0' - 47.0' Tan w/ pockets of gray, loose, all. stiff, very moist, low plasticity, calc.		I: 33.0' - 37.0'
			47.0' - 49.5' Tan, wet, low plasticity, loose, calc., heavy gravel and coarse sand size ironstone pebbles present.		J: 37.0' - 42.0'
					K: 42.0' - 47.0'
					L: 47.0' - 49.5'
					M: 49.5' - 50.7'
					3. Cartons:
					C-1: 50.7' - 51.8'
					4. Drill rig moved off hole 4', and fish-tailed to Hole E-logged on 12 November 1973
					5. Water bailed to 32.1' with casing still in hole. Could bail on further due to rate of incoming water.
					Water level after 72 hours was
					Perforated plastic pipe set to 72.0'.



RECORD DRAWING-WORK AS BUILT

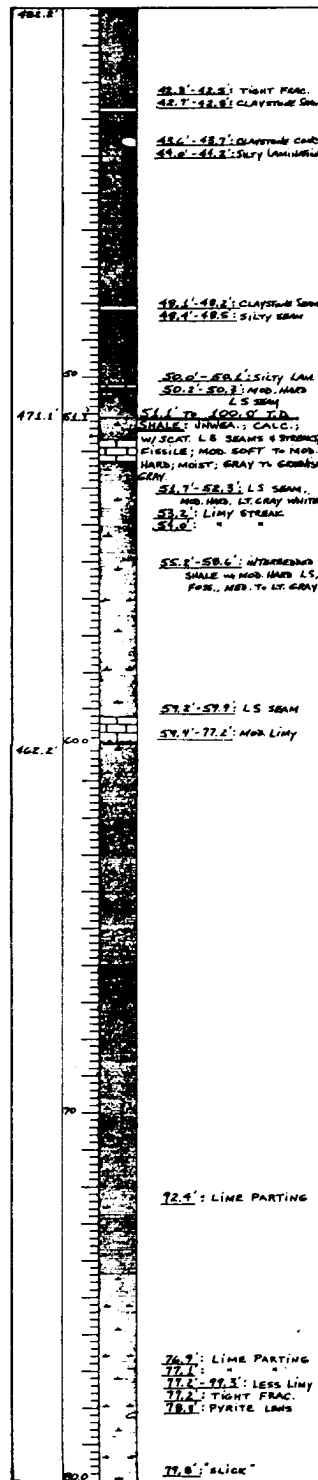
SYMBOL NO.	ACTION	DATE	DESCRIPTION OF WORK
U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS			
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:			
ENGINEER:			
INV. NO. DACW 63-80-5			CONTR. NO. DACW 63-8
DRAWING NUMBER			

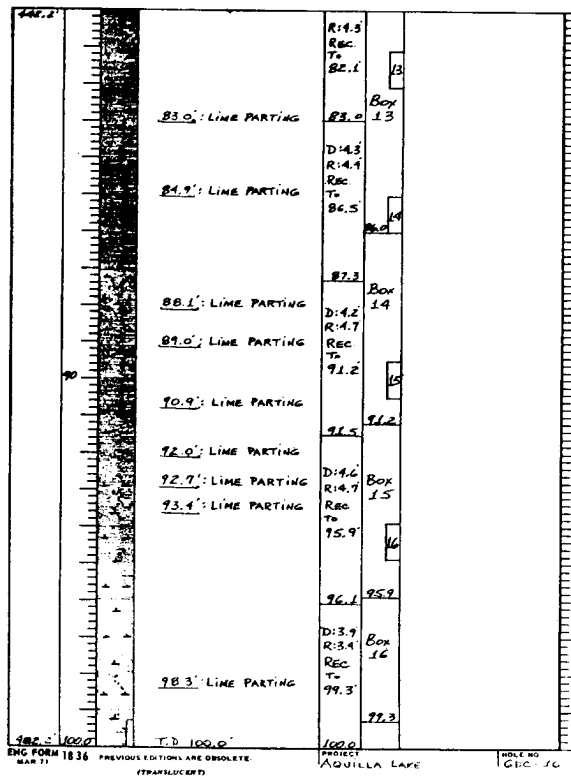
TO ACCOMPANY FINAL FOUNDATION REPORT

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS EMBANKMENT AND SPILLWAY LOGS OF BORINGS 8A6C-15		
DRAWN BY:			
CHECKED BY:			
ENGINEER:			
SUBMITTED BY:		INV. NO. DACW63-80-B-0085	DATED: AUG. 1980
		CONTR. NO. DACW63-81-C-0039	SEQUENCE NO.
		DRAWING NUMBER	SHEET NO.
		8-5 of	110

CONTR. NO. DACW63-81-C-0039

[illegible]



RECORD DRAWING-WORK AS BUILT

SYN. NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-16		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG, 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-2035	SEQUENCE NO.	
	DRAWING NUMBER	SHEET NO.	III
	8-6 OF		

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 37

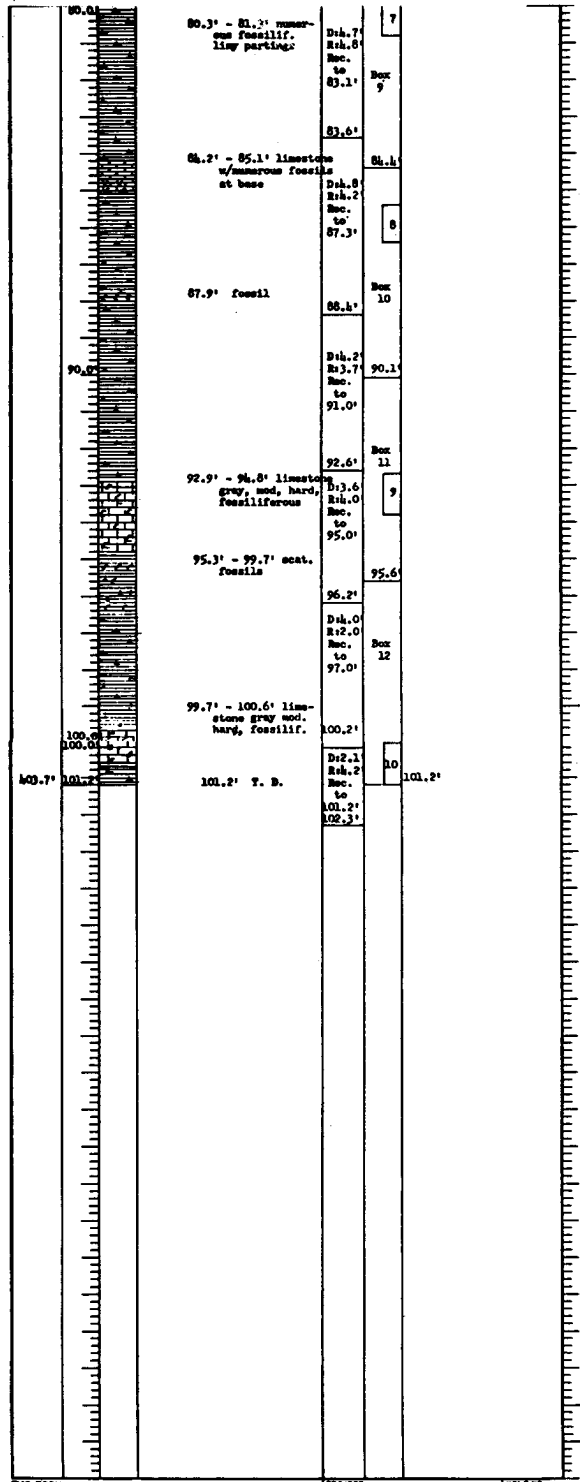
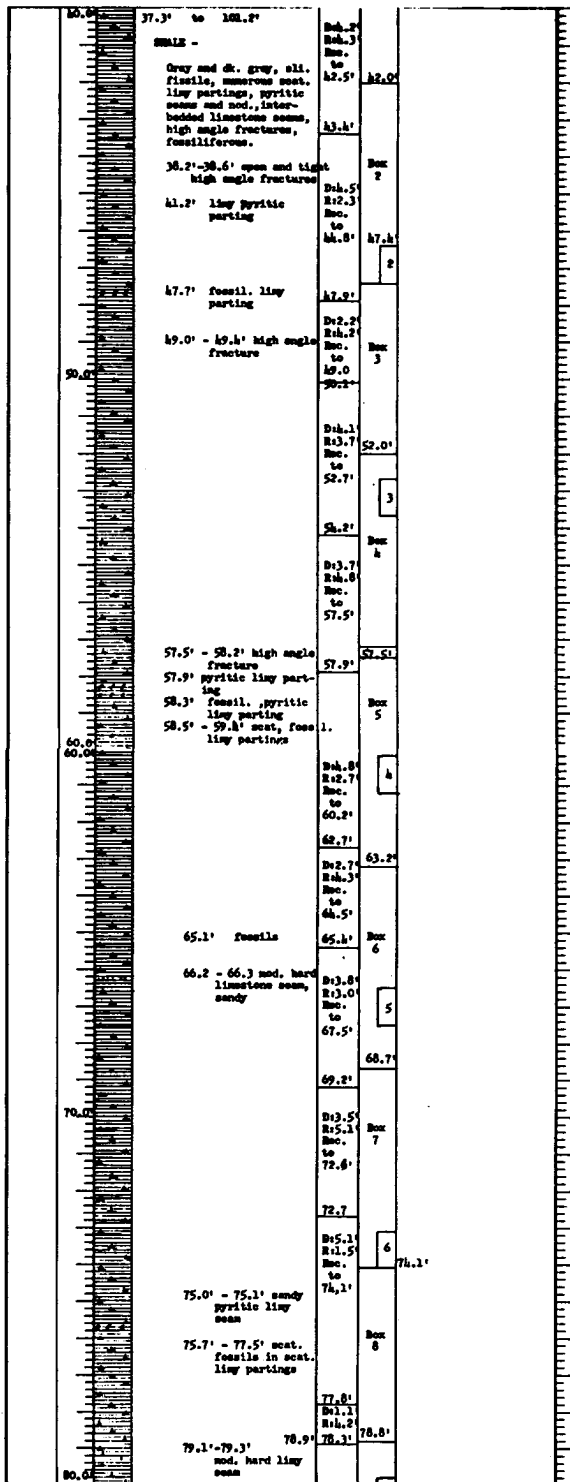
CONTR. NO. DACW63-81-C-2035

Hole No. #866C-17

Borehole Log		Division		Installation		Date		Hole No.	
PROJECT		SUB		FWD		DATE AND TYPE OF TEST		NO. 1	
AQUILA Lake - Rehabilitation						6" Core Barrel		NO. 6	
C. LOCATION (State or County)		E. 1. 2. 0. 9. 5		1. 85. 1. 90					
D. Borehole Name		MOCC-C							
F. DATE AND TIME (When on starting site and the number)		8. 6. 6. 0 - 17							
G. NAME OF DRILLER		D. Schooner							
H. THICKNESS OF OVERBURDEN		36.5'							
I. DEPTH DRILLED INTO ROCK		64.7'							
J. TOTAL DEPTH OF HOLE		101.2'							
K. DIRECTION OF HOLE		VERTICAL		INCLINED		DATE		COMPLETED	
						26 July '73		31 July '73	
L. TOTAL NUMBER CORE SAMPLES		13							
M. ELEVATION GROUND WATER		11.0'							
N. DATE HOLE		26 July '73							
O. ELEVATION TOP OF HOLE		506.9'							
P. TOTAL CORE RECOVERY PER SAMPLE									
Q. SIGNATURE OF INSPECTOR		R. NAME OF DRILLER							
		R. NAME OF DRILLER							

ELEVATION	DEPTH LOGGED	CLASSIFICATION OF MATERIALS (Groundwater)	LOCAL TEST	TEST NO.	REMARKS
501.9'	0.0'	CLAY - Dark brown, silty, ali. moist, high plasticity, calc.	0.0'	0.0'	1. 8" Flight Auger 0.0' - 36.5' 6" Core Barrel 36.5' - 101.2' 8" Casing set to 36.5'
196.9'	3.0'	CLAY - Chocolate brown, very silty, ali. moist, ali. calc., high plasticity.	3.0'	3.0'	2. Jars : A: 0.0' - 3.0' B: 3.0' - 8.0' C: 8.0' - 13.0' D: 13.0' - 17.0' E: 17.0' - 22.0' F: 22.0' - 26.5' G: 26.5' - 31.5' H: 31.5' - 36.5'
10.0'	8.0'	CLAY - Brown, ali. sandy, ali. moist, med. plasticity, calc.	8.0'	8.0'	3. Cartons : C-1: 38.8' - 39.8' C-2: 39.8' - 47.4' C-3: 52.7' - 53.7' C-4: 60.2' - 61.2' C-5: 66.5' - 67.5' C-6: 73.1' - 74.1' C-7: 79.8' - 80.8' C-8: 85.4' - 86.4' C-9: 92.7' - 93.8' C-10: 100.1' - 101.2'
191.9'	13.0'	CLAY - Light brown, ali. sandy, ali. moist, med. plasticity, calc.	13.0'	13.0'	4. X-logged 31 July '73 Perforated plastic pipe set to 50.0'
187.9'	17.0'	CLAY - Tan, sandy, moist, med. plasticity, calc.	17.0'	17.0'	
20.0'	22.0'				
182.9'	22.0'	SAND - Light tan, clayey, very moist, med. to low plasticity, calc.	22.0'	22.0'	
178.4'	26.5'	SAND - Light tan w/white streaks, clayey, very moist, med. to low plasticity, calc.	26.5'	26.5'	
173.4'	31.5'	SAND - Dark gray, clayey, very moist, low plasticity, calc., w/tabular rounded sandstone and dark limestone pebbles at lower portions.	31.5'	31.5'	
168.4'	36.5'	LTPHSTONE - Light olive brown and white, sandy, fine-grained crystalline, angular lim siltstone at base, pyrite replacement and streaks of a dk. mineral.	36.5'	36.5'	

Depth (ft)	Description	Interval (ft)	Box
37.3' to 40.2'	SHALE -		
Grey and dk. gray, sil. fissile, numerous scat. clay partings, pyritic seams and nod., inter-bedded limestone seams, high angle fractures, fossiliferous.	42.5'	Box 2	
38.2' - 38.6' open and tight high angle fractures	43.4'		
41.2' clay pyritic parting	44.8'	Box 3	
47.7' fossil. clay parting	47.9'		
49.0' - 49.4' high angle fracture	49.0'	Box 4	
	52.7'		
	54.2'	Box 5	
57.5' - 58.2' high angle fracture	57.9'		
57.9' pyritic clay parting		Box 6	
58.3' fossil. pyritic clay parting			
58.5' - 59.4' scat. fossil partings		Box 7	
	60.2'		
	62.7'	Box 8	
65.1' fossil	65.4'		
66.2 - 66.3 mod. hard limestone seam, sandy	67.5'	Box 9	
	69.2'		
	72.6'	Box 10	
	74.1'		
75.0' - 75.1' sandy pyritic clay seam		Box 11	
75.7' - 77.5' scat. fossil in scat. clay partings			
	78.3'	Box 12	
79.1' - 79.3' mod. hard clay seam			

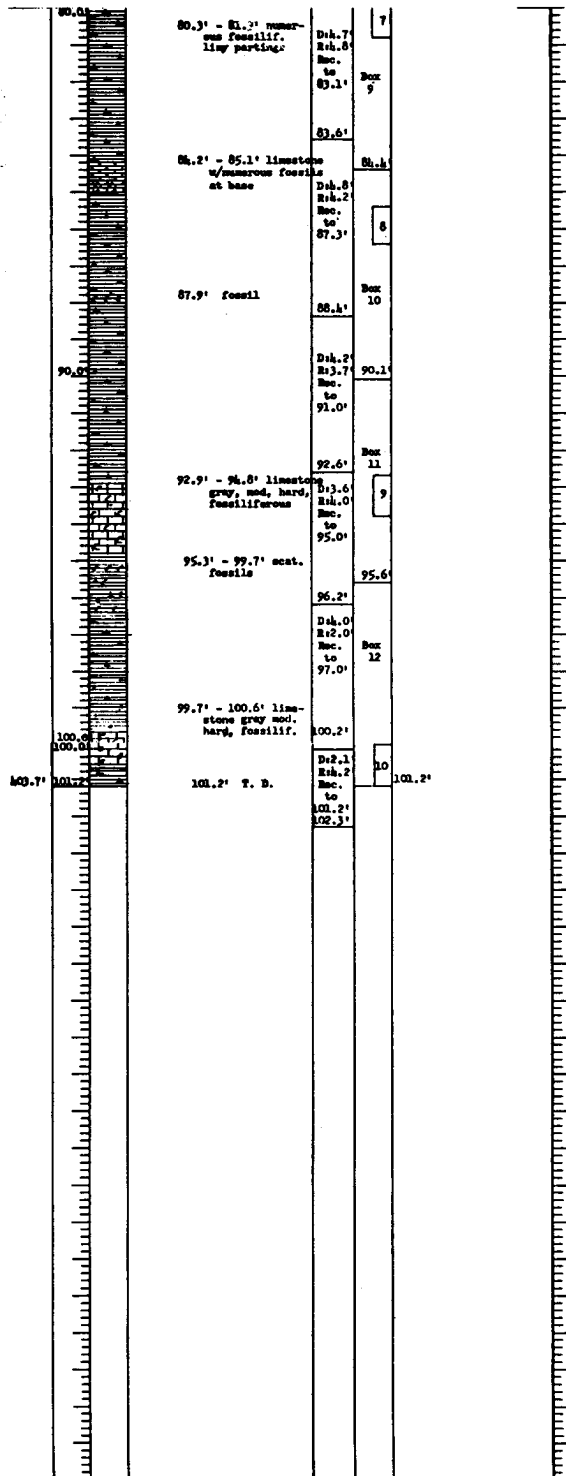


SDS FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT Aquilla Lake - Embankment SCALE 1"=10'

RECORD

DESIGNED	-----
DRAWN BY	-----
CHECKED	-----
SUBMITTED	-----
ENGINEER	-----

TO ACCOMPANY FINAL



NG FORM 18-36
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.
(TRANSILUCENT)

PROJECT
Aquilla Lake - Embankment
SHEET NO.
8A6C-17

RECORD DRAWING-WORK AS BUILT

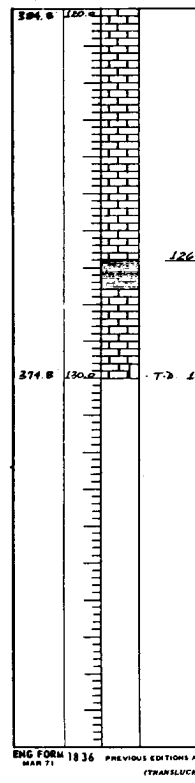
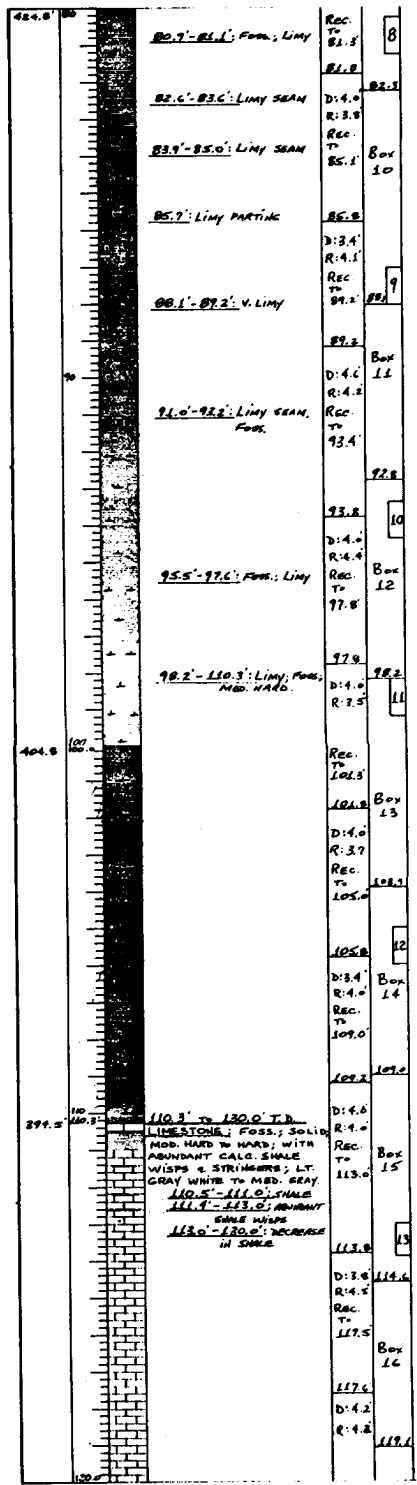
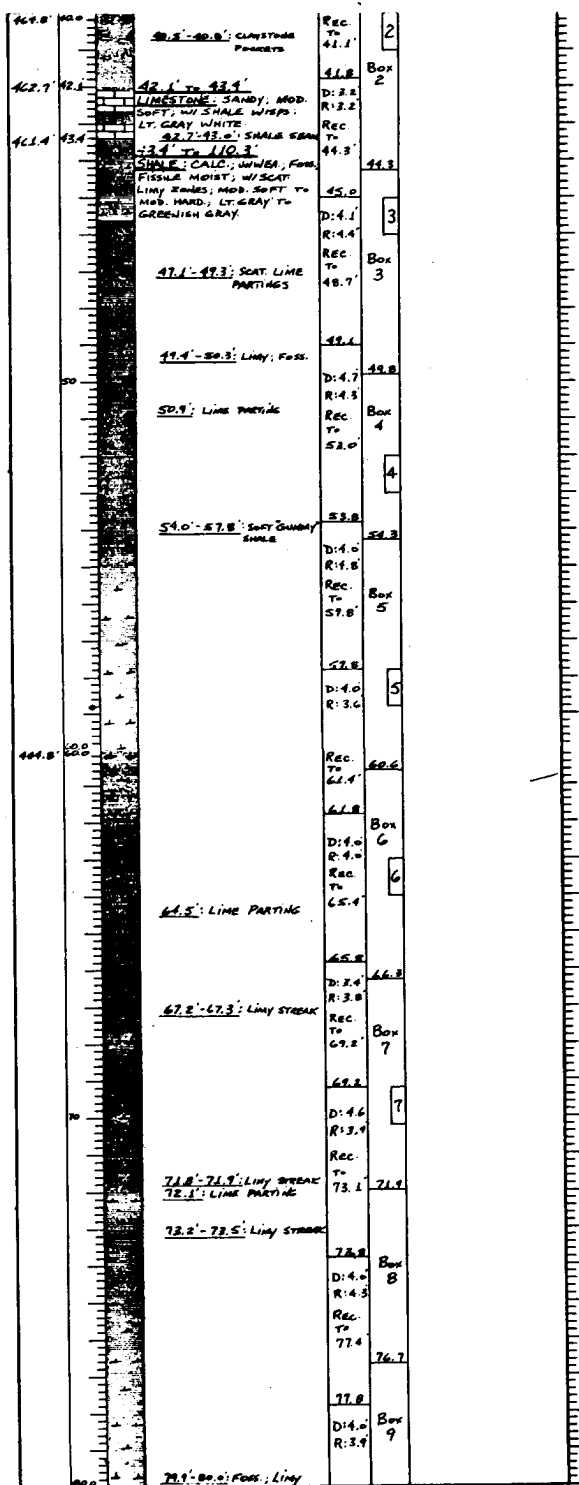
REVISION NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p> <p align="center">EMBANKMENT AND SPILLWAY</p> <p align="center">LOGS OF BORINGS 8A6C-17</p>		
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:			
ENGINEER:	INV. NO. DACHG3-80-B-0085 DATED: AUG. 1980 CONTR. NO. DACHG3-81-C-0033 DRAWING NUMBER 6-7 OF 112		SEQUENCE NO. 112

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 38

CONTR. NO. DACHG3-81-C-0033

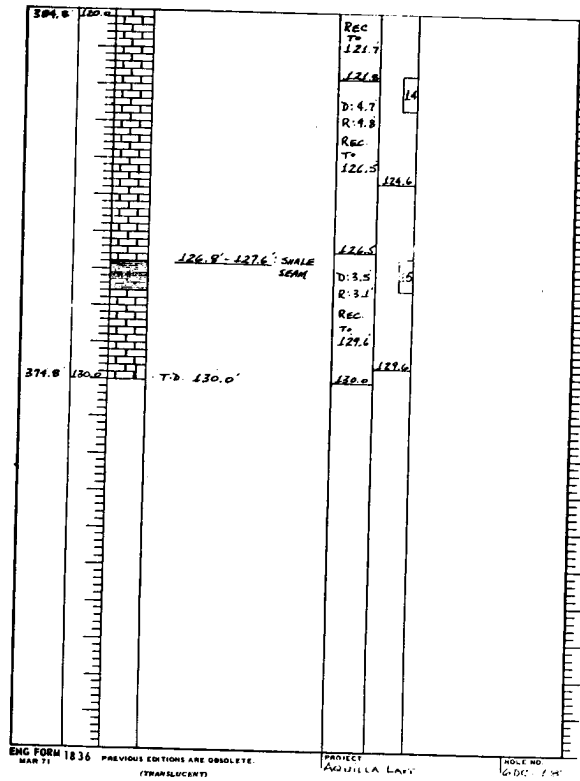
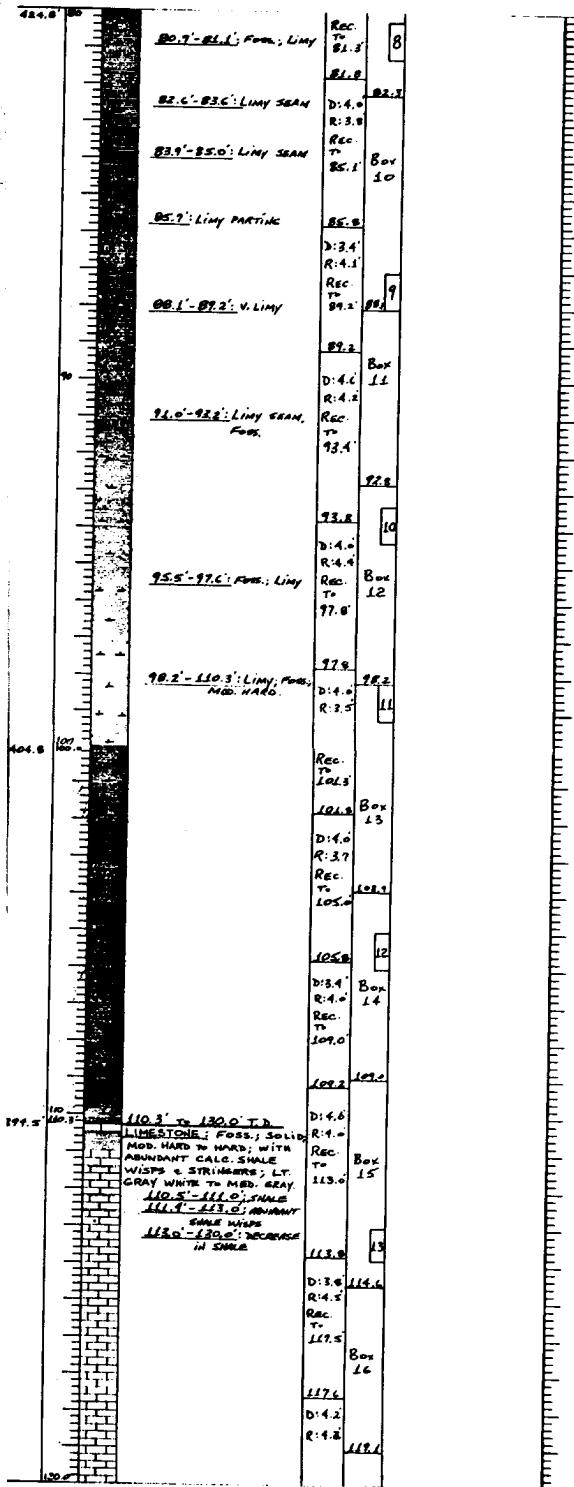
Top	Bottom	Interval	Notes	Box
464.8	462.7	2.1'	46.2'-46.3': CLAYSTONE FOSSILS	2
462.7	461.4	1.3'	46.1' TO 46.4' LIMESTONE; SANDY; MOD. SOFT; W/ SHALE WIPES LT. GRAY WHITE	Box 2
461.4	459.4	2.0'	45.9' TO 46.0' SHALE 45.9' TO 46.0' SHALE; CALC.; W/ WIPES, FOS. FIDDLE; MOD. SOFT LIM. LAM. MOD. SOFT MOD. HARD; LT. GRAY TO GREENISH GRAY	46.3
459.4	457.1	2.3'	47.1'-47.3'; SCAT. LIM. PARTINGS	3
457.1	454.9	2.2'	49.4'-50.3'; LIMY; FOS.	Box 3
454.9	452.0	2.9'	50.3'; LIM. PARTING	4
452.0	449.8	2.2'	54.0'-57.8'; SOFT QUARTZ SHALE	5
449.8	446.8	3.0'	57.8' D: 4.0 R: 1.8 REC. TO 57.8'	Box 5
446.8	441.8	5.0'	64.5'; LIM. PARTING	6
441.8	437.2	4.6'	67.2'-67.3'; LIMY STRIKE	Box 6
437.2	432.2	5.0'	71.8'-71.9'; LIMY STRIKE 72.1'; LIM. PARTING	7
432.2	429.2	3.0'	72.2'-72.5'; LIMY STRIKE	Box 7
429.2	427.8	1.4'	72.8' D: 4.0 R: 4.5 REC. TO 72.8'	Box 8
427.8	424.0	3.8'	77.8' D: 4.0 R: 3.9 REC. TO 77.8'	Box 9
424.0	421.1	2.9'	79.1'-80.0'; FOS.; LIMY	



ENG FORM 1836 PREVIOUS EDITIONS AT MAR 71 (TRANSLOC)

RECORD DRAWING.

SYMBOL NO.	ACTION
U.S. ARN	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

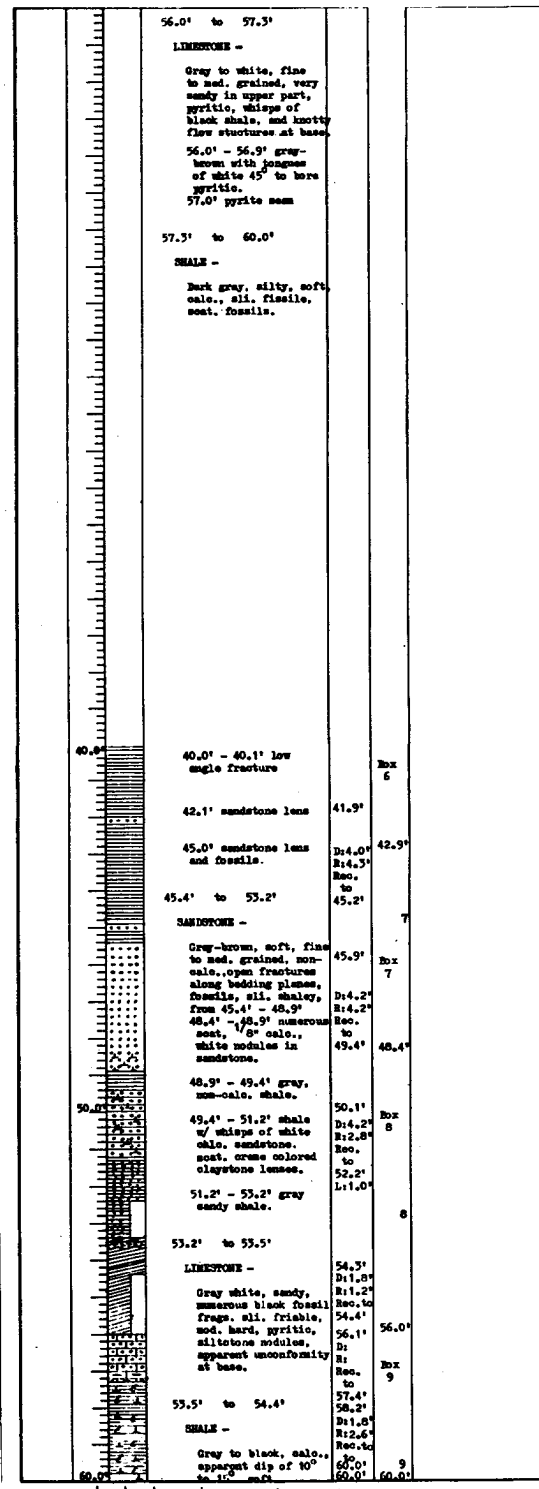


RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-18		
SUBMITTED BY:	INV. NO. DACW03-80-8-0086	DATED: AUG 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW03-81-C-0035	DRAWING NUMBER	SHEET NO. 113

[illegible]

BORING LOG		GENERAL INFORMATION		SPECIFICATIONS	
1. PROJECT: Aquilla Lake - Embankment		2. DATE AND TYPE OF TEST: 6" Cast-In-Place		3. LOCATION: 6" Diamond	
4. BORING DEPTH: 60.0'		5. BORING TYPE: 6" Cast-In-Place		6. BORING METHOD: 6" Diamond	
7. BORING NO.: 600-22		8. BORING DATE: 1972		9. BORING TIME: 10:00 AM	
10. BORING LOCATION: 6" Diamond		11. BORING METHOD: 6" Diamond		12. BORING TYPE: 6" Cast-In-Place	
13. BORING DEPTH: 60.0'		14. BORING TYPE: 6" Cast-In-Place		15. BORING METHOD: 6" Diamond	
16. BORING DATE: 1972		17. BORING TIME: 10:00 AM		18. BORING LOCATION: 6" Diamond	
19. BORING METHOD: 6" Diamond		20. BORING TYPE: 6" Cast-In-Place		21. BORING DEPTH: 60.0'	
22. BORING DATE: 1972		23. BORING TIME: 10:00 AM		24. BORING LOCATION: 6" Diamond	
25. BORING METHOD: 6" Diamond		26. BORING TYPE: 6" Cast-In-Place		27. BORING DEPTH: 60.0'	
28. BORING DATE: 1972		29. BORING TIME: 10:00 AM		30. BORING LOCATION: 6" Diamond	
31. BORING METHOD: 6" Diamond		32. BORING TYPE: 6" Cast-In-Place		33. BORING DEPTH: 60.0'	
34. BORING DATE: 1972		35. BORING TIME: 10:00 AM		36. BORING LOCATION: 6" Diamond	
37. BORING METHOD: 6" Diamond		38. BORING TYPE: 6" Cast-In-Place		39. BORING DEPTH: 60.0'	
40. BORING DATE: 1972		41. BORING TIME: 10:00 AM		42. BORING LOCATION: 6" Diamond	
43. BORING METHOD: 6" Diamond		44. BORING TYPE: 6" Cast-In-Place		45. BORING DEPTH: 60.0'	
46. BORING DATE: 1972		47. BORING TIME: 10:00 AM		48. BORING LOCATION: 6" Diamond	
49. BORING METHOD: 6" Diamond		50. BORING TYPE: 6" Cast-In-Place		51. BORING DEPTH: 60.0'	
52. BORING DATE: 1972		53. BORING TIME: 10:00 AM		54. BORING LOCATION: 6" Diamond	
55. BORING METHOD: 6" Diamond		56. BORING TYPE: 6" Cast-In-Place		57. BORING DEPTH: 60.0'	
58. BORING DATE: 1972		59. BORING TIME: 10:00 AM		60. BORING LOCATION: 6" Diamond	
61. BORING METHOD: 6" Diamond		62. BORING TYPE: 6" Cast-In-Place		63. BORING DEPTH: 60.0'	
64. BORING DATE: 1972		65. BORING TIME: 10:00 AM		66. BORING LOCATION: 6" Diamond	
67. BORING METHOD: 6" Diamond		68. BORING TYPE: 6" Cast-In-Place		69. BORING DEPTH: 60.0'	
70. BORING DATE: 1972		71. BORING TIME: 10:00 AM		72. BORING LOCATION: 6" Diamond	
73. BORING METHOD: 6" Diamond		74. BORING TYPE: 6" Cast-In-Place		75. BORING DEPTH: 60.0'	
76. BORING DATE: 1972		77. BORING TIME: 10:00 AM		78. BORING LOCATION: 6" Diamond	
79. BORING METHOD: 6" Diamond		80. BORING TYPE: 6" Cast-In-Place		81. BORING DEPTH: 60.0'	
82. BORING DATE: 1972		83. BORING TIME: 10:00 AM		84. BORING LOCATION: 6" Diamond	
85. BORING METHOD: 6" Diamond		86. BORING TYPE: 6" Cast-In-Place		87. BORING DEPTH: 60.0'	
88. BORING DATE: 1972		89. BORING TIME: 10:00 AM		90. BORING LOCATION: 6" Diamond	
91. BORING METHOD: 6" Diamond		92. BORING TYPE: 6" Cast-In-Place		93. BORING DEPTH: 60.0'	
94. BORING DATE: 1972		95. BORING TIME: 10:00 AM		96. BORING LOCATION: 6" Diamond	
97. BORING METHOD: 6" Diamond		98. BORING TYPE: 6" Cast-In-Place		99. BORING DEPTH: 60.0'	
100. BORING DATE: 1972		101. BORING TIME: 10:00 AM		102. BORING LOCATION: 6" Diamond	



DESIGNED BY:	DATE:	DESCRIPTION OF WORK:
U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS		AQUILLA LAKE EMBANKMENT AND SP LOGS OF BORING
DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
SUBMITTED BY:		
ENGINEER:		

RECORD DRAWING-WORK AS BUILT

TO ACCOMPANY FINAL FOUNDATION REPORT

56.0' to 57.3'

LIMESTONE -

Gray to white, fine to med. grained, very sandy in upper part, pyritic, shales of black shale, and knotty flow structures at base.

56.0' - 56.9' gray-brown with tongues of white 45' to base pyritic.

57.0' pyrite seam

57.3' to 60.0'

SHALE -

Dark gray, silty, soft, calc., sil. fissile, cont. fossils.

40.0' - 40.1' low angle fracture

Box 6

42.1' sandstone lens

41.9'

45.0' sandstone lens and fossils.

44.0'

44.5'

Reo. to

45.2'

45.4' to 53.2'

SANDSTONE -

Gray-brown, soft, fine to med. grained, non-calc., open fractures along bedding planes, fossils, sil. shaley, from 45.4' - 45.9' 46.4' - 48.9' numerous soft, 1/8" calc., white nodules in sandstone.

45.9'

Box 7

44.2'

44.2'

Reo. to

49.4'

46.4'

48.9' - 49.4' gray, non-calc. shale.

50.1'

Box 8

49.4' - 51.2' shale w/ shales of white calc. sandstone, cont. crum colored claystone lenses.

51.2'

52.8'

Reo. to

52.2'

51.2' - 53.2' gray sandy shale.

51.0'

8

53.2' to 53.5'

LIMESTONE -

Gray white, sandy, numerous black fossil frags, sil. friable, med. hard, pyritic, silstone nodules, apparent unconformity at base.

54.3'

51.8'

51.2'

Reo. to

54.4'

56.1'

56.0'

Reo. to

57.4'

58.2'

51.8'

51.2'

Reo. to

60.0'

60.0'

53.5' to 54.4'

SHALE -

Gray to black, calc., apparent dip of 10° to 30°

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

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60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

60.0'

REVISION NO.	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

ENGINEER: _____

INVENTORY NO. DACW63-80-B-0085 DATED: AUG 1980

CONTRACT NO. DACW63-B1-C-0035

DRAWING NUMBER: _____

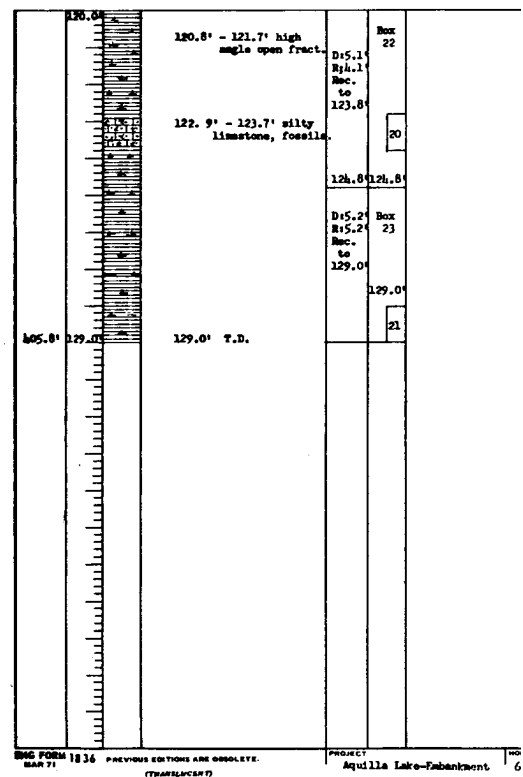
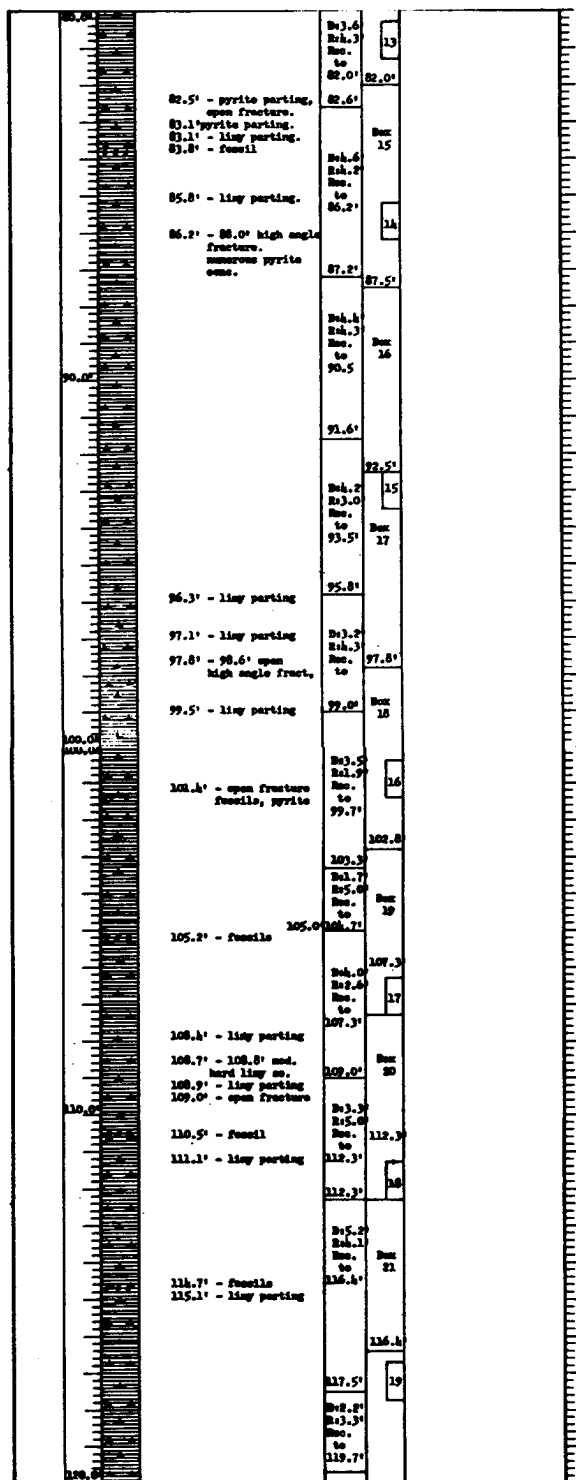
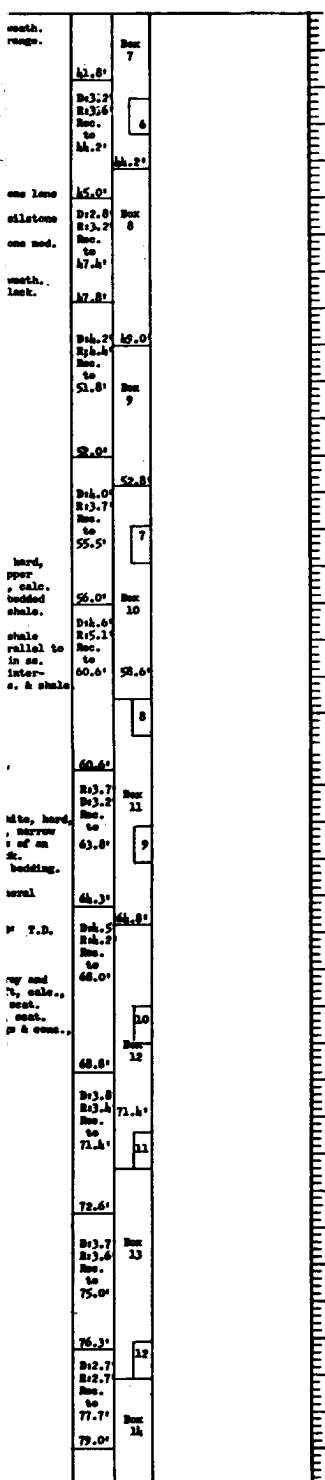
SHEET NO. 114

SEQUENCE NO. 114

CONTRACT NO. DACW63-B1-C-0035

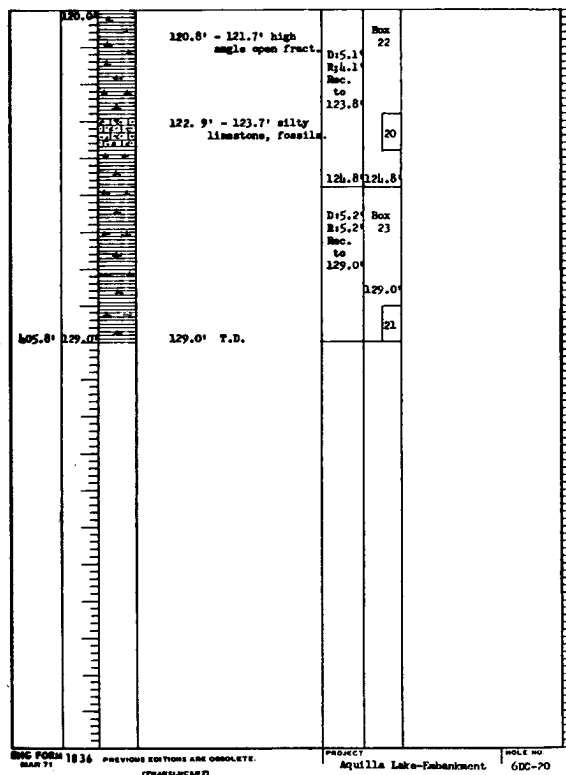
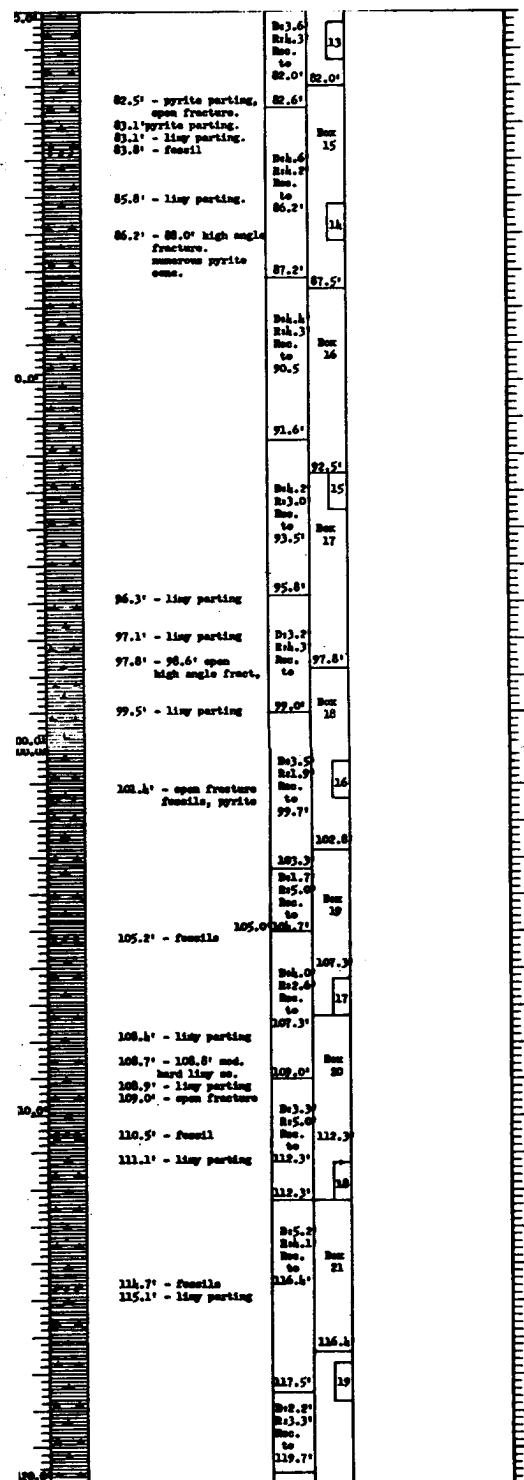
CONTRACT NO. DACW63-B1-C-0035

DRILLING LOG		SECTION		WELL		LOG		REMARKS	
1. PROJECT		2. LOCATION		3. WELL NO.		4. DATE		5. TIME	
Aquila Lake - Rehabilitation		X 2,090,110 Y 64,370		600-20		16 July '73		16 July '73	
6. DRILLING AGENCY		7. TYPE OF WELL		8. ELEVATION OF BENCH MARK		9. ELEVATION OF WELL HEAD		10. ELEVATION OF WELL BOTTOM	
USCEC		T. Suite		534.8'		534.8'		534.8'	
11. DIRECTION OF DRILL		12. DIRECTION OF DRILL		13. DIRECTION OF DRILL		14. DIRECTION OF DRILL		15. DIRECTION OF DRILL	
Vertical		Vertical		Vertical		Vertical		Vertical	
16. THICKNESS OF OVERBURDEN		17. DEPTH DRILLED INTO ROCK		18. TOTAL DEPTH OF HOLE		19. REMARKS		20. REMARKS	
1.0'		128.0'		129.0'		1. 8" Flight Auger		2. 8" Flight Auger	
						0.0' - 2.6'		0.0' - 2.6'	
						4" Danison barrel		4" Danison barrel	
						2.6' - 6.6'		2.6' - 6.6'	
						4" Core barrel		4" Core barrel	
						6.6' - 129.0'		6.6' - 129.0'	
						DB-1		DB-1	
						(h.5)		(h.5)	
						3. Danison core:		3. Danison core:	
						DB-1 : 2.6' - 4.6'		DB-1 : 2.6' - 4.6'	
						DB-2 : 4.6' - 6.6'		DB-2 : 4.6' - 6.6'	
						4. Coretons:		4. Coretons:	
						C-1 : 8.6' - 9.6'		C-1 : 8.6' - 9.6'	
						C-2 : 12.2' - 13.2'		C-2 : 12.2' - 13.2'	
						C-3 : 17.4' - 18.4'		C-3 : 17.4' - 18.4'	
						C-4 : 31.3' - 32.3'		C-4 : 31.3' - 32.3'	
						C-5 : 35.9' - 36.9'		C-5 : 35.9' - 36.9'	
						C-6 : 42.3' - 43.3'		C-6 : 42.3' - 43.3'	
						C-7 : 53.9' - 54.9'		C-7 : 53.9' - 54.9'	
						C-8 : 58.6' - 59.6'		C-8 : 58.6' - 59.6'	
						C-9 : 62.1' - 63.1'		C-9 : 62.1' - 63.1'	
						C-10 : 67.0' - 68.0'		C-10 : 67.0' - 68.0'	
						C-11 : 70.4' - 71.4'		C-11 : 70.4' - 71.4'	
						C-12 : 76.1' - 77.1'		C-12 : 76.1' - 77.1'	
						C-13 : 80.3' - 81.3'		C-13 : 80.3' - 81.3'	
						C-14 : 85.2' - 86.2'		C-14 : 85.2' - 86.2'	
						C-15 : 92.5' - 93.5'		C-15 : 92.5' - 93.5'	
						C-16 : 100.4' - 101.4'		C-16 : 100.4' - 101.4'	
						C-17 : 106.3' - 107.3'		C-17 : 106.3' - 107.3'	
						C-18 : 111.3' - 112.3'		C-18 : 111.3' - 112.3'	
						C-19 : 116.7' - 117.7'		C-19 : 116.7' - 117.7'	
						C-20 : 122.8' - 123.8'		C-20 : 122.8' - 123.8'	
						C-21 : 126.0' - 129.0'		C-21 : 126.0' - 129.0'	
						5. Weathering to 50.0'		5. Weathering to 50.0'	
		</							



RECORD DRAWING-WORK AS BUILT

DATE	ACTION	DESCRIPTION OF REV.
U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS		
DESIGNED BY:		
DRAWN BY:		
CHECKED BY:		
SUBMITTED BY:		
ENGINEER:		
AQUILLA LAKE, TEXAS		
EMBANKMENT AND SPI		
LOGS OF BORING		
6DC-20		
INV. NO. DACW63-80-2		
CONTR. NO. DACW63-80-2		
DRAWING NUMBER		



RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS GDC-20		
SUBMITTED BY:	INV. NO. DACN63-80-B-0008	DATED: AUG. 1962	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACN63-80-B-0008	DRAWING NUMBER	SHEET NO. 115

BAGG-17

TRAILING LOG		SND		END		NO 7	
1. PROJECT		2. LOCATION		3. DATE		4. TIME	
5. NAME		6. TYPE		7. DATE		8. TIME	
9. NAME		10. TYPE		11. DATE		12. TIME	
13. NAME		14. TYPE		15. DATE		16. TIME	
17. NAME		18. TYPE		19. DATE		20. TIME	
21. NAME		22. TYPE		23. DATE		24. TIME	
25. NAME		26. TYPE		27. DATE		28. TIME	
29. NAME		30. TYPE		31. DATE		32. TIME	
33. NAME		34. TYPE		35. DATE		36. TIME	
37. NAME		38. TYPE		39. DATE		40. TIME	
41. NAME		42. TYPE		43. DATE		44. TIME	
45. NAME		46. TYPE		47. DATE		48. TIME	
49. NAME		50. TYPE		51. DATE		52. TIME	
53. NAME		54. TYPE		55. DATE		56. TIME	
57. NAME		58. TYPE		59. DATE		60. TIME	
61. NAME		62. TYPE		63. DATE		64. TIME	
65. NAME		66. TYPE		67. DATE		68. TIME	
69. NAME		70. TYPE		71. DATE		72. TIME	
73. NAME		74. TYPE		75. DATE		76. TIME	
77. NAME		78. TYPE		79. DATE		80. TIME	
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85. NAME		86. TYPE		87. DATE		88. TIME	
89. NAME		90. TYPE		91. DATE		92. TIME	
93. NAME		94. TYPE		95. DATE		96. TIME	
97. NAME		98. TYPE		99. DATE		100. TIME	

1. DRILLING LOG

2. LOCATION

3. DATE

4. TIME

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1. DRILLING LOG

2. LOCATION

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93. NAME

94. TYPE

95. DATE

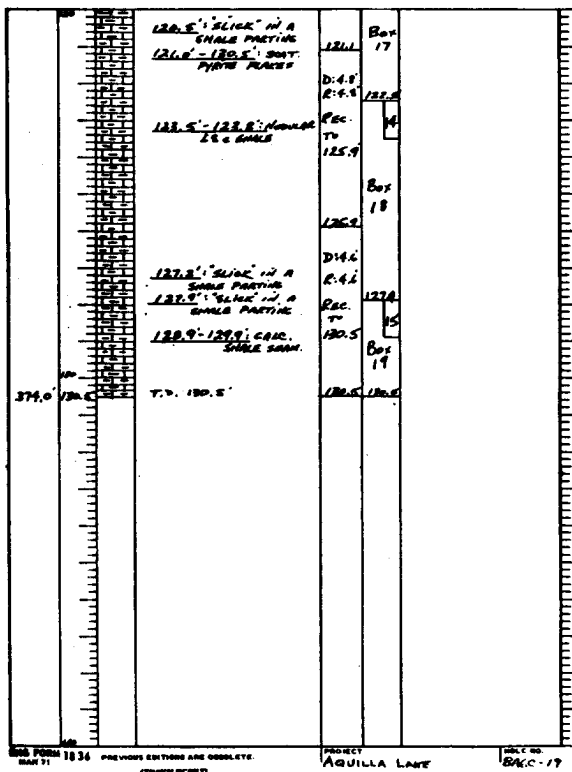
96. TIME

97. NAME

98. TYPE

99. DATE

100. TIME



RECORD DRAWING-WORK AS BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS EMBANKMENT AND SPILLWAY LOGS OF BORINGS 8A6C-21 AND 6DC-22
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	INV. NO. DACH63-60-D-0055 DATED: AUG. 1969
CONTR. NO. DACH63-61-C-0053	SEQUENCE NO.
DRAWING NUMBER	SHEET NO.
8-11	116

[illegible]

Note No. 8A-24

DRILLING LOG		DIVISION	INSTALLATION	SHEET 1 OF 1 SHEETS	
PROJECT Aquilla Lake - Embankment		SMD	FWJ		
LOCATION (Continuation of Record) At 2,090,370 It 80,425			MSL		
DRILLING AGENCY USCE-C			PAVING 1500		
DATE OF LOG (Date on which work was done)		8A-24	13. TOTAL NO. OF SPECIMENS TAKEN	5	UNSTURBED 0
NAME OF BORER T. Suite			14. TOTAL NUMBER CORE BORES	0	
DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		SEA FROM VERT.	15. ELEVATION GROUND DATA		
THICKNESS OF OVERBURDEN		16.0'	16. DATE HOLE	STARTED	COMPLETED
DEPTH DRILLED INTO ROCK		2.0'	17. ELEVATION TOP OF HOLE	502.5'	
TOTAL DEPTH OF HOLE		18.0'	18. TOTAL CORE RECOVERY FOR BORING		
			19. MEASURE OF CORROSION		
			REMARKS		
			(Checking time, water level, depth of sounding, etc., if significant)		
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Photographed)	BOX OR SAMPLE NO.	REMARKS
502.5'	0.0'		0.0' to 5.0'	0.0'	1. 8" Auger 0.0' - 18.0'
			CLAY -		
			Brown, silty, moist, plastic, med. plasticity, calc., smooth.	A	2. Jars: A: 0.0' - 5.0' B: 5.0' - 8.5' C: 8.5' - 14.0' D: 14.0' - 16.0' E: 16.0' - 18.0'
			5.0' to 8.5'	5.0'	3. 24 hour check - water level was 5.0'
			CLAY -		
			Light brown, moist, silty, med. plasticity, calc., soft, smooth.	B	
			8.5' to 14.0'	8.5'	
			CLAY -		
			Dark brown, hard, silty, moist, scat. caliche, silty, high plasticity, calc.	C	
			14.0' to 16.0'	14.0'	NOTE: The clay shown between 14.0' and 16.0' is interpreted as being highly weathered, non-calcareous shale. <i>Henry M. Kende</i>
			CLAY -	D	
			Olive-brown, w/gray & orange streaks, sticky, smooth, silty, high plasticity, gypsum crystals, non-calc.	16.0'	
			16.0' to 18.0'	18.0'	
			SHALE -		
			Gray, badly weath., orange & brown stains, clayey, soft, non-calc., 18.0' T. D.		

END FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT HOLE NO.

RECORD DRAWING-WORK AS BUILT

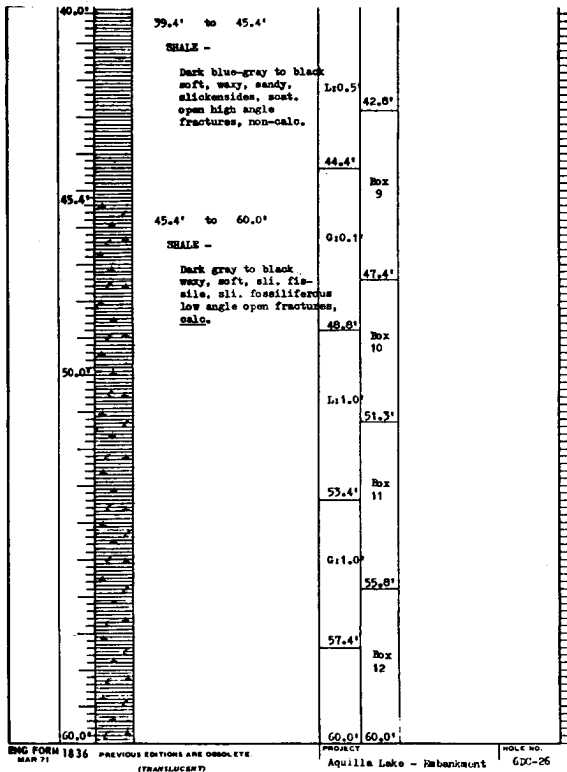
SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT V CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-23 AND 8A-24		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085		
ENGINEER:	CONTR. NO. DACW63-81-C-2 DRAWING NUMBER 8-12		

RECORD DRAWING-WORK AS BUILT

SYM. NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-23 AND 8A-24		
SUBMITTED BY:	INV. NO. DACW63-80-B-0006	DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SHEET NO.	SEQUENCE NO.
	DRAWING NUMBER	18-12 OF	117

CONTR. NO. DACW63-81-C-0035

	77.3' to 52.3'	SANDSTONE -	Light gray, soft to med. hard, silty, non-salic., fine grained, there were heavy cone lenses in this sandstone. Very soft sandstone seems washed away during drilling.	41.8'	Box 9	40.3'
				45.8'		
				51.4'		
				48.6'		
				49.3'		
				510.5	Box 10	
	52.3' to 52.6'	LIMESTONE -	Light gray, hard, crystalline, fine-grained, dark gray sand seams.	52.3'		52.3'
				510.3		
					Box 11	
	52.6' to 60.4'	SHALE -	Blue-gray, soft, fissile, whips of sand, non-salic. few small fossils.	56.8'		
				010.2		57.8'
					Box 12	
						60.4'
	T.B.					

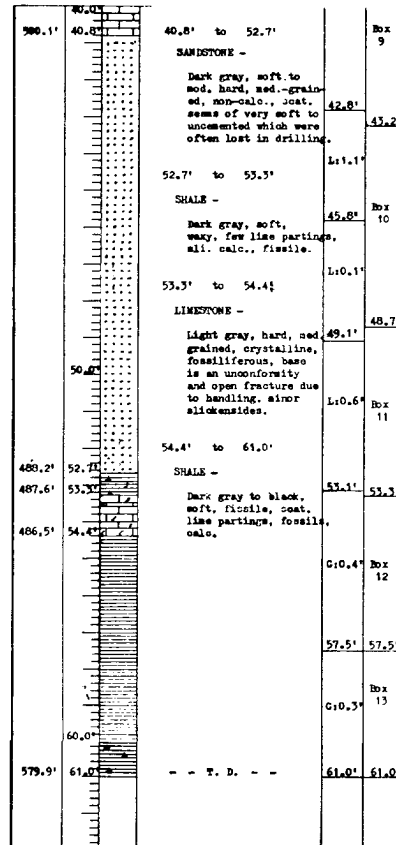


RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-25 AND 6DC-26		
SUBMITTED BY:	INV. NO. DACW63-80-B-0086	DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SHEET NO.	SEQUENCE NO.
	DRAWING NUMBER	8-13 OF	118

Hole No. PAC-27

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		SWD		PWD		OF 4 SHEETS	
1. PROJECT		2. LOCATION		3. DATE AND TYPE OF BIT		4. DATE	
Aquila Lake - Embankment		PAC-27		10. SIZE AND TYPE OF BIT		11. DATE FOR ELEVATION SHOWN (ITEM 10)	
12. MANUFACTURER'S DESIGNATION OF DRILL		13. TOTAL NO. OF CORES		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
16. DATE		17. DATE		18. DATE		19. DATE	
17. DATE		18. DATE		19. DATE		20. DATE	
21. DATE		22. DATE		23. DATE		24. DATE	
25. DATE		26. DATE		27. DATE		28. DATE	
29. DATE		30. DATE		31. DATE		32. DATE	
33. DATE		34. DATE		35. DATE		36. DATE	
37. DATE		38. DATE		39. DATE		40. DATE	
41. DATE		42. DATE		43. DATE		44. DATE	
45. DATE		46. DATE		47. DATE		48. DATE	
49. DATE		50. DATE		51. DATE		52. DATE	
53. DATE		54. DATE		55. DATE		56. DATE	
57. DATE		58. DATE		59. DATE		60. DATE	
61. DATE		62. DATE		63. DATE		64. DATE	
65. DATE		66. DATE		67. DATE		68. DATE	
69. DATE		70. DATE		71. DATE		72. DATE	
73. DATE		74. DATE		75. DATE		76. DATE	
77. DATE		78. DATE		79. DATE		80. DATE	
81. DATE		82. DATE		83. DATE		84. DATE	
85. DATE		86. DATE		87. DATE		88. DATE	
89. DATE		90. DATE		91. DATE		92. DATE	
93. DATE		94. DATE		95. DATE		96. DATE	
97. DATE		98. DATE		99. DATE		100. DATE	



544.0'	41.5'	to 42	
543.4'	42.0'		SANDSTONE -
542.6'	42.0'		Light gray, fine-grained massive.
541.4'	44.1'	to 42	
539.5'	46.0'		SANDSTONE -
	46.0'		Brownish, g bedded, sil med. grains calc.
	42.9'	to 44	
			SANDSTONE -
	50.0'		Dark bluish very shaley soft, fine grained, no some clayst
	44.1'	to 46	
			SANDSTONE -
			Dark blue-gray calc., med. fine to med somewhat sa
	46.0'	to 60	
			SHALE -
			Dark blue-gray, soft fissile, micritic, no sandstone a tight low a fractures a high angle east, white whips of g
524.9'	60.0'		
	60.0'		
	61.0'		- - T. D. -

FINAL

TO ACCOMPANY FINAL

100-28
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40.0'	41.5'	41.5' to 42.1'	140.7'	Box 8
544.0'	42.1'	SANDSTONE -	42.5'	42.9'
543.4'	42.9'	Light gray, hard, fine-grained, calc. massive.		
542.6'	44.1'	42.1' to 42.9'	0:1.2'	Box 9
541.4'	45.8'	SANDSTONE -		
539.5'	47.4'	Brownish gray, thin-bedded, sil. fissile, med. grained, non-calc.		
	49.0'	42.9' to 44.1'		
	50.0'	SANDSTONE -	49.0'	Box 10
		Dark bluish gray, very shaley or clayey, soft, fine to med. grained, non-calc., some claystone present	1:0.6'	
		44.1' to 46.0'		51.8'
		SANDSTONE -		
		Dark blue-gray, non-calc., med. hard, fine to med. grained, somewhat massive.	53.3'	Box 11
		46.0' to 60.6'	0:0.2'	
		SEALE -		56.6'
		Dark blue-gray to black, soft, sil. fissile, med. hard, argill. non-calc., sandstone seams, also tight low angle fractures and a few high angle fractures, med. white sil. calc. whorls of med.	57.0'	
			Rec. 4.0'	Box 12
524.9'	60.6'			60.6'
	61.0'	- - T. D. - -	61.0'	

47.6' - 48.1' was lost, destroyed by the core barrel after 2 runs over it.

RECORD DRAWING-WORK AS BUILT

SYM	DD	NO	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS					
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS				
DRAWN BY:	EMBANKMENT AND SPILLWAY				
CHECKED BY:	LOGS OF BORINGS 846C-27 AND 6DC-28				
SUBMITTED BY:	INV. NO. DACW 63-80-B-0085 DATED: AUG. 1980				
ENGINEER:	CONTR. NO. PACW 63-B1-C-0053 SEQUENCE NO. 119				
	DRAWING NUMBER 8-14 of SHEET NO. 119				

CONTR. NO. PACW 63-B1-C-0053

DRILLING LOG		DIVISION		INSTALLATION		SHEET 1 OF 2 SHEETS	
PROJECT Aguilla Lake - Rehabilitation		SWD		FDD		DATE 10/27/74	
LOCATION (Continued on Next)				DATE FOR ELEVATION SHOW TIME 10/27/74			
1. DRILLER/GEOD				2. HANDYMAN/GEOD			
3. DATE 10/27/74				4. DATE 10/27/74			
5. NAME OF DRILLER G. Schoonover		6. DATE 10/27/74		7. DATE 10/27/74			
8. DIRECTION OF HOLE VERTICAL		9. DEPTH FROM VENT. 4.8'		10. ELEVATION TOP OF HOLE 547.7'		11. ELEVATION AT BOTTOM 542.9'	
12. THICKNESS OF OVERBURDEN 4.8'		13. DEPTH DRILLED INTO ROCK 35.2'		14. TOTAL DEPTH OF HOLE 40.0'		15. REMARKS	
16. TOTAL DEPTH OF HOLE 40.0'		17. REMARKS		18. REMARKS		19. REMARKS	
ELEVATION		DEPTH		LEGEND		CLASSIFICATION OF MATERIALS (Continued)	
0.0'		0.0'		CLAY -		0.0' to 4.8'	
4.8'		4.8'		0.0' - 2.0' Tanish brown, sandy, moist, stiff, med. to high plasticity, calc., rootlets.		2.0' - 4.0' Brown, moist, sandy, silty, stiff, high plasticity, coarse sand size ironstone, sandstone, chert, non-calc.	
10.0'		10.0'		4.0' - 4.8' Gray-brown, sandy, silty, moist, stiff, high plasticity, calc., calcite nodules to 1/2".		4.8' to 39.6'	
20.0'		20.0'		SHALE -		Light gray, weathered soft, fissile, sandy, stained orange and yellow, gummy, non-calc., gypsiferous, interbedded sandstone seams and lenses.	
30.0'		30.0'		19.6' - 23.2' massive light gray, fine to med. grained, non-calc., sandstone. Some are thin-bedded and flaggy soft to med. hard, crossbedded, stained.		23.2' - 26.3' sandy light, stained, med. pinkish with gypsum fill.	
40.0'		40.0'		26.3' to longer weathered.		26.3' - 39.6' sand. hard sandstone seams calcite fills both high and low angle fractures.	
40.0'		40.0'		39.6'		39.6'	

BOLLING LOG		SYSTEM		CORRELATION		Hole No.		COP-30	
1. PROJECT		2. LOCATION		3. DATE AND TIME OF RUN		4. CORRELATION		5. COMMENTS	
Amelia Lake - Richmond		Richmond		10.00 AM 11/1/74		10.00 AM 11/1/74		10.00 AM 11/1/74	
6. DRILLING AGENCY		7. DRILLER		8. DRILLING METHOD		9. DRILLING EQUIPMENT		10. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
11. DRILLING METHOD		12. DRILLING EQUIPMENT		13. DRILLING LOG		14. DRILLING LOG		15. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
16. DRILLING LOG		17. DRILLING LOG		18. DRILLING LOG		19. DRILLING LOG		20. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
21. DRILLING LOG		22. DRILLING LOG		23. DRILLING LOG		24. DRILLING LOG		25. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
26. DRILLING LOG		27. DRILLING LOG		28. DRILLING LOG		29. DRILLING LOG		30. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
31. DRILLING LOG		32. DRILLING LOG		33. DRILLING LOG		34. DRILLING LOG		35. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
36. DRILLING LOG		37. DRILLING LOG		38. DRILLING LOG		39. DRILLING LOG		40. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
41. DRILLING LOG		42. DRILLING LOG		43. DRILLING LOG		44. DRILLING LOG		45. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
46. DRILLING LOG		47. DRILLING LOG		48. DRILLING LOG		49. DRILLING LOG		50. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
51. DRILLING LOG		52. DRILLING LOG		53. DRILLING LOG		54. DRILLING LOG		55. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
56. DRILLING LOG		57. DRILLING LOG		58. DRILLING LOG		59. DRILLING LOG		60. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
61. DRILLING LOG		62. DRILLING LOG		63. DRILLING LOG		64. DRILLING LOG		65. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
66. DRILLING LOG		67. DRILLING LOG		68. DRILLING LOG		69. DRILLING LOG		70. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
71. DRILLING LOG		72. DRILLING LOG		73. DRILLING LOG		74. DRILLING LOG		75. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
76. DRILLING LOG		77. DRILLING LOG		78. DRILLING LOG		79. DRILLING LOG		80. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
81. DRILLING LOG		82. DRILLING LOG		83. DRILLING LOG		84. DRILLING LOG		85. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
86. DRILLING LOG		87. DRILLING LOG		88. DRILLING LOG		89. DRILLING LOG		90. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
91. DRILLING LOG		92. DRILLING LOG		93. DRILLING LOG		94. DRILLING LOG		95. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	
96. DRILLING LOG		97. DRILLING LOG		98. DRILLING LOG		99. DRILLING LOG		100. DRILLING LOG	
Richmond		Richmond		Richmond		Richmond		Richmond	

DRILLING LOG		DIVISION		DETAILED		SHEET	
PROJECT		3RD		FWD		1 OF 1 SHEETS	
1. LOCATION (Coordinate)		Aquila Dam		2. SITE AND TYPE OF SOIL (See 101/102)		3. DATE FOR ELEVATION DATA (Year or Date)	
4. DRILLING AGENCY		On-site Works		5. MANUFACTURE'S DESIGNATION OF DRILL		6. DRILLING 1500	
7. HOLE NO. (As shown on drawing and the record)		8A-33		8. TOTAL NO. OF SOIL SAMPLES		9. UNDISTURBED	
10. NAME OF DRILLER		Schroeder		11. TOTAL NUMBER CORE SAMPLES		12. ELEVATION GROUND WATER	
13. DIRECTION OF HOLE		14. DATE HOLE		15. STARTED		16. COMPLETED	
17. THICKNESS OF OVERBURDEN		18. ELEVATION TOP OF HOLE		19. TOTAL CORE RECOVERY FOR BORING		20. SIGNATURE OF INSPECTOR	
21. DEPTH DRILLED INTO ROCK		22. TOTAL DEPTH OF HOLE		23. ELEVATION TOP OF HOLE		24. TOTAL CORE RECOVERY FOR BORING	
25. ELEVATION		26. DEPTH		27. LOGGING		28. CLASSIFICATION OF MATERIALS (Descriptive)	
29. ELEVATION		30. DEPTH		31. LOGGING		32. CLASSIFICATION OF MATERIALS (Descriptive)	
33. ELEVATION		34. DEPTH		35. LOGGING		36. CLASSIFICATION OF MATERIALS (Descriptive)	
37. ELEVATION		38. DEPTH		39. LOGGING		40. CLASSIFICATION OF MATERIALS (Descriptive)	
39. ELEVATION		40. DEPTH		41. LOGGING		42. CLASSIFICATION OF MATERIALS (Descriptive)	
43. ELEVATION		44. DEPTH		45. LOGGING		46. CLASSIFICATION OF MATERIALS (Descriptive)	
47. ELEVATION		48. DEPTH		49. LOGGING		50. CLASSIFICATION OF MATERIALS (Descriptive)	
51. ELEVATION		52. DEPTH		53. LOGGING		54. CLASSIFICATION OF MATERIALS (Descriptive)	
55. ELEVATION		56. DEPTH		57. LOGGING		58. CLASSIFICATION OF MATERIALS (Descriptive)	
59. ELEVATION		60. DEPTH		61. LOGGING		62. CLASSIFICATION OF MATERIALS (Descriptive)	
63. ELEVATION		64. DEPTH		65. LOGGING		66. CLASSIFICATION OF MATERIALS (Descriptive)	
67. ELEVATION		68. DEPTH		69. LOGGING		70. CLASSIFICATION OF MATERIALS (Descriptive)	
71. ELEVATION		72. DEPTH		73. LOGGING		74. CLASSIFICATION OF MATERIALS (Descriptive)	
75. ELEVATION		76. DEPTH		77. LOGGING		78. CLASSIFICATION OF MATERIALS (Descriptive)	
79. ELEVATION		80. DEPTH		81. LOGGING		82. CLASSIFICATION OF MATERIALS (Descriptive)	
83. ELEVATION		84. DEPTH		85. LOGGING		86. CLASSIFICATION OF MATERIALS (Descriptive)	
87. ELEVATION		88. DEPTH		89. LOGGING		90. CLASSIFICATION OF MATERIALS (Descriptive)	
91. ELEVATION		92. DEPTH		93. LOGGING		94. CLASSIFICATION OF MATERIALS (Descriptive)	
95. ELEVATION		96. DEPTH		97. LOGGING		98. CLASSIFICATION OF MATERIALS (Descriptive)	
99. ELEVATION		100. DEPTH		101. LOGGING		102. CLASSIFICATION OF MATERIALS (Descriptive)	

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-29, 6DC-30, 8A-32 AND 33		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED:	AUG. 1980
ENGINEER:	CONTR. NO. DACW63-81-C-0055	SEQUENCE NO.	120
	DRAWING NUMBER	SHEET NO.	8-15 of

CONTR. NO. DACW63-81-C-0055

29.5' to 61.2'
SHALE & SANDSTONE
finely interbedded. Shale
is very sandy & silty
in places, often a thin
shaly & silty bed.
Silty partings in both
materials. Interval is
soft, gray
61.2' to 67.6' Sandstone,
v. calc. / limestone, v.
sandy.
67.6' to 68.6'
SANDSTONE: silty,
very calc., slightly
friable, mod. hard, gray
Quartzite at abundant
in strata with shaly
partings. Partings are
somewhat calc.
68.6' to 69.6'
LIMESTONE: sandy,
shaly. Contains much
A mixture.
69.6' to 62.6'
LIMESTONE: argill-
aceous, mod hard to
near hard. Top 6.05'
is rust stained.
62.6' to 69.4'
SHALE: argill., calc.,
mod hard to soft, gray
to dark gray.
69.4' to 69.9' Contains
thin limestone lenses
69.9' to 69.6' Apparently
drilled up
69.6' to 69.7' soft
contains many partings
69.7' to 69.6' very calc.,
mod hard. Belonging
to very argillaceous
limestone.

T.D.C. 690'

T.P. @ 69.0

-WOODBINE/DEL
RIO FORMATIONAL
CONTACT IS AT 62.5

T.O.C 69.0'

RECORD DRAWING-WO

1	2	3	4	5	6	7	8	9	10	11	12
U.S. ARMY			E								
DESIGNED BY:											

DRAWN BY:											

CHECKED BY:											

SUBMITTED BY:											

SYN	DA	NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>					
DESIGNED BY:		<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>			
DRAWN BY:					
CHECKED BY:					
		<p align="center">EMBANKMENT AND SPILLWAY</p>			
		<p align="center">LOGS OF BORINGS</p>			
		<p align="center">8A6C-34 AND 35</p>			
SUBMITTED BY:		INV. NO. DAC463-80-B-0085		DATED: AUG. 1980	
		CONTR. NO. DAC463-81-C-0035		SEQUENC. NO.	
ENGINEER:		DRAWING NUMBER		SHEET NO.	
				B-16 OF	
				121	

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE
MAR 71 (TRANSLUCENT)

PROJECT	Aquillo Dam
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HOLE NO.
D.F.C-30

TO ACCOMPANY FINAL FOUNDATION REPORT

DRILLING LOG		REVISION		LOCATION		Hole No. 8A-37	
1. PROJECT		Southwestern		Fort Worth		Sheet 1 of 1	
2. LOCATION		Aquila Dam Site		3. SIZE AND TYPE OF BIT		4" Auger	
4. LOCATION (Continued or Revised)		Outlet Works Investigation		5. DATE FOR COMPLETION		23 July 1974	
6. DRILLING AGENCY		Corps of Engineers		7. MANUFACTURER'S DESIGNATION OF DRILL		Pailling 1900	
8. HOLE NO. (24 hours after starting hole and after completion)		8A-37		9. TOTAL NO. OF OVER-DRIVEN SAMPLES TAKEN		DISTURBED 9 UNDISTURBED 0	
10. NAME OF DRILLER		REMARKS		11. ELEVATION GROUND WATER		12. ELEVATION TOP OF HOLE	
13. DIRECTION OF HOLE		14. DATE HOLE		15. DATE HOLE		16. DATE HOLE	
17. THICKNESS OF OVERBURDEN		18. DEPTH DRILLED INTO ROCK		19. TOTAL CORE RECOVERY FOR BORING		20. SIGNATURE OF INSPECTOR	
21. TOTAL DEPTH OF HOLE		22. CLASSIFICATION OF MATERIALS		23. CORE RECORD		24. REMARKS	
ELEVATION		DEPTH		LEGEND		REMARKS	
0.0' to 13.5' -		CLAY - calcareous, medium plasticity, medium, tan moist, sandy		A		1. Probably making water below 17.0'. Hole caved to 17.5' upon completion. Water level at 17.5' 25 July 1974.	
13.5' to 16.8'		GRAVEL - calcareous, 2" maximum, moist, sandy, slightly clayey, tan.		B		2. Drilling: No problems.	
16.8' to 19.0'		SAND - fine grained, tan, calcareous, medium dense, damp.		C		3. Jars:	
19.0' to 23.5'		CLAY - medium to low plasticity, medium, tan, slightly calcareous, possible highly weathered shale.		D		A. 0.0' to 0.6'	
23.5' to 25.0'		SHALE - gray, some laminar definition, unweathered.		E		B. 0.6' to 5.5'	
25.0' to 25.0'		---		F		C. 5.5' to 6.8'	
25.0' to 25.0'		---		G		D. 6.8' to 7.1'	
25.0' to 25.0'		---		H		E. 7.1' to 13.5'	
25.0' to 25.0'		---		I		F. 13.5' to 16.0'	
25.0' to 25.0'		---		J		G. 16.0' to 16.8'	
25.0' to 25.0'		---		K		H. 16.8' to 19.0'	
25.0' to 25.0'		---		L		I. 19.0' to 23.5'	
25.0' to 25.0'		---		M		J. 23.5' to 25.0'	

RECORD DRAWING-WORK AS BUILT

SUM. NO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	EMBANKMENT AND SPILLWAY			
CHECKED BY:	LOGS OF BORINGS 8A6C-36 AND 8A-37			
SUBMITTED BY:	INV. NO. DACW63-80-B-0085 DATED: AUG. 1980			
ENGINEER:	CONTR. NO. PACW63-B-6-0035 SEQUENCE NO.			
	DRAWING NUMBER SHEET NO. 122			

48.4' to 51.0'

SHALE - -

48.4' to 55.1' dark gray, waxy,
non-calcareous, grading
downward to calcareous along
bedding planes

50.1' to 50.5' SANDSTONE, moderately
cemented, light gray

55.1' to 71.0' greenish-gray,
calcareous, fissile, with clay
streaks

T. B. @ 71.0' in shale

Drilling Log Form with fields for: DRILLING LOG, LOCATION, DRILLING AGENCY, NAME OF DRILLER, LOCATION OF HOLE, THICKNESS OF OVERBURDEN, DEPTH DRILLED INTO ROCK, TOTAL DEPTH OF HOLE, CLASSIFICATION OF MATERIALS, and various sample logs (Milling, Jar samples, Carbon samples, Road samples, Water level, Hole).

48.4' to 71.0'

SHALE --

48.4' to 55.1' dark gray, waxy, non-calcareous, grading downward to calcareous along bedding planes

50.1' to 50.5' SANDSTONE, moderately cemented, light gray

55.1' to 71.0' greenish-gray, calcareous, fissile, with clay streaks

T. & @ 71.0' in shale

shale and sandstone 37.7' to 38.1'; 38.4' to 38.7'

SHALE --

38.9' to 40.4' dark gray, soft, waxy, non-calcareous, with occasional whips of lime

40.4' to 61.0' greenish-gray, calcareous, with clay pockets, moderately hard

45.9' to 46.4' slightly less calcareous

RECORD DRAWING-WOF

Form with fields for: DESIGNED BY, DRAWN BY, CHECKED BY, SUBMITTED BY, and ENGINEER.

DRILLING LOG		WATER		ELEVATION		DEPTH	
PROJECT: Southern		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
LOCATION: Aquilla Lake		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
DATE: 1960-39		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
NAME OF DRILLER: James R. Clark		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
DATE OF DRILLING: 25 APR 75		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
ELEVATION OF HOLE: 3716.9		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
TOTAL CORE RECOVERY FOR BORING: 312		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
TOTAL DEPTH OF HOLE: 61.0'		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
CLASSIFICATION OF MATERIALS		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
0.0' to 3.5' CLAY --		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
low plasticity, dark brown, soft to medium stiff, very moist, very sandy		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
3.5' to 5.5' GRAVEL --		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
tan, medium dense, very moist, sandy and clayey, to 1"		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
5.5' to 10.5' CLAY --		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
5.5' to 8.5' low plasticity, tan, stiff, moist, sandy		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
8.5' to 10.5' tan, soft, saturated, sandy and very gravelly, with cobbles to 4"		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
10.5' to 22.0' SHALE --		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
10.5' to 14.5' weathered, light gray and yellowish-brown, with occasional thin, elongate sandy lenses. Several low and high angle tight fractures; core was very badly broken in this zone due to poor seating of casing through gravel. At casing depths are uncertain		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
14.5' to 15.3' slightly weathered, dark gray, with some rust colored staining, especially on bedding planes; slightly gypsiferous		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
15.3' to 22.0' unweathered, dark gray		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
15.3' to 16.8' 4.25 on hand penetrometer, non-fissile		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
16.8' to 20.5' 4.5, fissile, waxy		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
20.5' to 21.5' 4.0' to 4.25 on penetrometer, non-fissile, does not tend to break on bedding planes upon drying		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
21.5' to 21.7' SANDSTONE, poorly cemented, light gray		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
21.7' to 22.0' very sandy		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
22.0' to 30.9' SANDSTONE --		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
22.0' to 25.2' light brown, poorly cemented, with some shale partings and thin beds of lignite; some core lost here		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
25.2' to 26.1' Limestone, light gray, well cemented, sandy, with numerous shale partings and a lens of moderately cemented sandstone; could not cut with a carbide		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
26.1' to 27.5' light brown, moderately cemented, with occasional shale partings and thin beds of lignite		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
27.5' to 27.8' no redrock		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
27.8' to 29.1' light gray, well cemented, calcareous, interbedded with thin beds of lignite; could not cut with carbide		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
29.1' to 31.2' light brown, moderately cemented, with several beds (0.05') of lignite and lignite sandstone		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
31.2' to 31.5' Limestone, light gray, well cemented, sandy with numerous shale partings		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
31.5' to 33.6' light brown, moderately cemented, with some thin beds of lignite and shale partings		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	
33.1' to 33.6'; 34.1' to 34.8' with 0.1' beds of interbedded		WATER: Fort Worth District		ELEVATION: Fort Worth District		DEPTH: 0 to 3	

shale and sandstone 37.7' to 38.1'; 38.4' to 38.7'	
SHALE --	
38.9' to 61.0'	
SHALE --	
38.9' to 40.4' dark gray, soft, waxy, non-calcareous, with occasional wisps of lime	
40.4' to 61.0' greenish-gray, calcareous, with limy pockets, moderately hard	
45.9' to 46.4' slightly less calcareous	

RECORD DRAWING-WORK AS BUILT

REVISED NO.	REVISION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 846C-38A AND 39		
SUBMITTED BY:	INV. NO. DACH63-80-B-0085	DATED: AUG 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACH63-81-C-0035	DRAWING NUMBER	SHEET NO. 123
		B-1207	

DIVISION		INSTALLATION		Hole No. BAC-40	
Southwestern		North District		Sheet 1 of 3	
1. NAME OF PROJECT		2. NAME AND TYPE OF HOLE		3. DATE AND TIME OF HOLE	
BAC-40		BAC-40		16 APR 75	
4. LOCATION OF HOLE		5. ELEVATION OF HOLE		6. ELEVATION OF HOLE	
BAC-40		15		17 APR 75	
7. NAME OF HOLE		8. DATE HOLE		9. ELEVATION TOP OF HOLE	
BAC-40		16 APR 75		523.1	
10. TOTAL NUMBER OF HOLE		11. TOTAL CORE RECOVERY FOR HOLE		12. TOTAL CORE RECOVERY FOR HOLE	
2		96.36		96.36	
13. ELEVATION OF HOLE		14. ELEVATION OF HOLE		15. ELEVATION OF HOLE	
15		15		15	
16. ELEVATION OF HOLE		17. ELEVATION OF HOLE		18. ELEVATION OF HOLE	
15		15		15	
19. ELEVATION OF HOLE		20. ELEVATION OF HOLE		21. ELEVATION OF HOLE	
15		15		15	
22. ELEVATION OF HOLE		23. ELEVATION OF HOLE		24. ELEVATION OF HOLE	
15		15		15	
25. ELEVATION OF HOLE		26. ELEVATION OF HOLE		27. ELEVATION OF HOLE	
15		15		15	
28. ELEVATION OF HOLE		29. ELEVATION OF HOLE		30. ELEVATION OF HOLE	
15		15		15	
31. ELEVATION OF HOLE		32. ELEVATION OF HOLE		33. ELEVATION OF HOLE	
15		15		15	
34. ELEVATION OF HOLE		35. ELEVATION OF HOLE		36. ELEVATION OF HOLE	
15		15		15	
37. ELEVATION OF HOLE		38. ELEVATION OF HOLE		39. ELEVATION OF HOLE	
15		15		15	
40. ELEVATION OF HOLE		41. ELEVATION OF HOLE		42. ELEVATION OF HOLE	
15		15		15	
43. ELEVATION OF HOLE		44. ELEVATION OF HOLE		45. ELEVATION OF HOLE	
15		15		15	
46. ELEVATION OF HOLE		47. ELEVATION OF HOLE		48. ELEVATION OF HOLE	
15		15		15	
49. ELEVATION OF HOLE		50. ELEVATION OF HOLE		51. ELEVATION OF HOLE	
15		15		15	
52. ELEVATION OF HOLE		53. ELEVATION OF HOLE		54. ELEVATION OF HOLE	
15		15		15	
55. ELEVATION OF HOLE		56. ELEVATION OF HOLE		57. ELEVATION OF HOLE	
15		15		15	
58. ELEVATION OF HOLE		59. ELEVATION OF HOLE		60. ELEVATION OF HOLE	
15		15		15	
61. ELEVATION OF HOLE		62. ELEVATION OF HOLE		63. ELEVATION OF HOLE	
15		15		15	
64. ELEVATION OF HOLE		65. ELEVATION OF HOLE		66. ELEVATION OF HOLE	
15		15		15	
67. ELEVATION OF HOLE		68. ELEVATION OF HOLE		69. ELEVATION OF HOLE	
15		15		15	
70. ELEVATION OF HOLE		71. ELEVATION OF HOLE		72. ELEVATION OF HOLE	
15		15		15	
73. ELEVATION OF HOLE		74. ELEVATION OF HOLE		75. ELEVATION OF HOLE	
15		15		15	
76. ELEVATION OF HOLE		77. ELEVATION OF HOLE		78. ELEVATION OF HOLE	
15		15		15	
79. ELEVATION OF HOLE		80. ELEVATION OF HOLE		81. ELEVATION OF HOLE	
15		15		15	
82. ELEVATION OF HOLE		83. ELEVATION OF HOLE		84. ELEVATION OF HOLE	
15		15		15	
85. ELEVATION OF HOLE		86. ELEVATION OF HOLE		87. ELEVATION OF HOLE	
15		15		15	
88. ELEVATION OF HOLE		89. ELEVATION OF HOLE		90. ELEVATION OF HOLE	
15		15		15	
91. ELEVATION OF HOLE		92. ELEVATION OF HOLE		93. ELEVATION OF HOLE	
15		15		15	
94. ELEVATION OF HOLE		95. ELEVATION OF HOLE		96. ELEVATION OF HOLE	
15		15		15	
97. ELEVATION OF HOLE		98. ELEVATION OF HOLE		99. ELEVATION OF HOLE	
15		15		15	
100. ELEVATION OF HOLE		101. ELEVATION OF HOLE		102. ELEVATION OF HOLE	
15		15		15	

beds of lignite on bedding planes, but sandstone appears massive	
53.3' to 54.6' moderately to well cemented, lignitic at top to non-lignitic at base	
54.6' to 59.4' with very numerous lenses of thinly bedded shale and sandstone	
59.4' to 56.5' predominantly sandstone	
59.4' to 61.8' moderately cemented, with interbedded lignite seams at 59.2' to 59.3'; 59.8' to 59.9'; 60.3' to 60.4'; lignite tends to be concentrated along bedding	
61.8' to 63.2' moderately to well cemented	
63.2' to 63.9'	
SHALE --	
dark gray, with occasional beds of sandstone	
63.9' to 64.5'	
SANDSTONE --	
63.9' to 64.2' poorly cemented with shale partings	
64.2' to 64.5' well cemented, brownish-gray	
64.5' to 65.3'	
LIKEWISE --	
light gray, well cemented, crystalline, sandy	
65.3' to 69.3'	
SHALE --	
greenish-gray, fissile, calcareous, with clay streaks	
T. R. @ 69.3' in shale	

calcareous
25.3' to 25.4' SANDSTONE,
moderately hard, slightly
calcareous

25.4' to 30.1' with numerous
pockets, lenses, and thin
beds of sandstone

27.4' to 27.8'; 28.4' to
28.6'; 29.0' to 29.5'
sandstone lenses, light gray

30.1' to 43.4' clay

53.2' to 53.3' SANDSTONE,
light gray, poorly cemented,
thinly interbedded with
shale

54.0' to 54.2' SANDSTONE,
light gray, well cemented,
calcareous

41.8' to 42.1' SANDSTONE,
poorly cemented

42.2' to 42.4' sandstone lenses

43.4' to 44.0' sandy

44.0' to 53.4'

SANDSTONE --

44.0' to 45.7' brown and light
brown, moderately cemented,
calcareous to non-calcareous,
very fossiliferous, with num-
erous oyster shells

45.7' to 47.8' moderately
cemented, decreasing downward
to poorly cemented at 47.3',
fossiliferous, mostly non-
calcareous, with occasional
shale partings

47.8' to 48.5' light gray,
interbedded with poorly
cemented sandstone

48.5' to 49.3' same as 44.0'
to 45.7' with some lignite

49.3' to 50.2' gray, poorly to
moderately cemented, rocky

non-calcareous, slightly fossiliferous,
slightly lignitic

50.2' to 51.8' light gray,
well cemented, calcareous,
with very numerous partings
of shale which increase downward,
slightly fossiliferous, ap-
proaches sandy limestone

51.8' to 53.4' grayish-brown,
moderately well cemented,
with numerous partings of
shale, mostly non-calcareous, pyritic at base

53.4' to 53.7'

LIMESTONE --

gray, well cemented, sandy,
with several solution cavities
and partings of shale

53.7' to 62.6'

SHALE --

greenish-gray, calcareous,
with ridges of lime, moderately
hard

54.1' to 54.3' lenses of
fine sandstone

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-40 AND 41		
SUBMITTED BY:	INV. NO. DACW63-80-B-0086	DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SEQUENCE NO.	124
	DRAWING NUMBER	SHEET NO.	124
		19 OF	

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		Southwestern		Fort Worth District		OF 2 SHEETS	
1. LOCATION (County and State)		2. DATE AND TIME OF DRILLING		3. NAME AND TYPE OF BIT		4. DATE AND TIME OF LOGGING	
5. DRILLING AGENCY		6. MANUFACTURER'S DESIGNATION OF DRILL		7. FALLING 1500		8. TOTAL NO. OF OVER-BORE SAMPLES TAKEN	
9. NAME OF DRILLER		10. TOTAL NUMBER CORE BORES		11. ELEVATION GROUND WATER		12. DATE HOLE STARTED	
13. DIRECTION OF HOLE		14. DATE HOLE COMPLETED		15. ELEVATION TOP OF HOLE		16. TOTAL CORE RECOVERY FOR BORING	
17. THICKNESS OF OVERBURDEN		18. DEPTH DRILLED INTO ROCK		19. TOTAL DEPTH OF HOLE		20. SIGNATURE OF INSPECTOR	
21. ELEVATION DEPTH		22. CLASSIFICATION OF MATERIALS		23. CORE SAMPLE NO.		24. REMARKS	
0.0' to 30.0'		CLAY -		Drilling		0.0' to 20.0' 8" auger	
0.0' to 10.0' low plasticity, brown to dark brown, very stiff, moist, sandy, except slightly sandy, 2.0' to 5.0'				20.0' to 32.0' 6" D			
10.0' to 12.0' becomes light brown, slightly sandy, with limy streaks				32.0' to 40.0' 6" core			
12.0' to 16.0' low plasticity, light brown, stiff, very moist, very sandy				Jar samples			
16.0' to 21.0' becomes very moist to saturated				A. 20.0' to 22.0'			
21.0' to 29.0' low plasticity, tan with some gray, sandy to very sandy, with zones of sand at 26.0'				22.0' to 24.0'			
29.0' to 30.0' becomes predominantly gray, very moist				24.0' to 26.0'			
30.0' to 32.0'				26.0' to 28.0'			
GRAVEL -				28.0' to 30.0'			
no sample				Note: no sample from 30.0' to 32.0'			
32.0' to 32.2'				Jar samples			
LIMESTONE -				A. 2.0' to 5.0'			
light gray, well cemented, slightly stained, sandy				B. 5.0' to 10.0'			
32.2' to 39.5'				C. 10.0' to 12.0'			
SHALE -				D. 12.0' to 16.0'			
32.2' to 34.0' dark gray, unweathered, non-fractured, non-calcareous, with numerous lenses and thin beds of calcareous and non-calcareous sandstone. Some core loss in this zone, due to grinding by gravel				E. 16.0' to 20.0'			
				F. 22.0'			
				G. 24.0'			
				H. 26.0'			
				I. 28.0'			
				J. 30.0'			
				Carton samples			
				1. 35.7' to 36.6'			
				2. 38.0' to 38.9'			
				Water level			
				Hole making water at 17.0'; backfilled after completion			
				Note			
				0.0' to 32.0' calcareous			
				32.2' to 34.0' non-calcareous, except sandstone			
				34.0' to 39.5' calcareous			
				Primary is unweathered. 3P-42 was drilled to 61.0' for purposes of geophysical logging. 3P-42 was drilled 6.0' east of 8600-42 at the same elevation			
34.0' to 39.5' greenish-gray, moderately hard, calcareous, with limy shales							
T. D. @ 39.5'							

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		Southwestern		Fort Worth District		OF 2 SHEETS	
1. LOCATION (County and State)		2. DATE AND TIME OF DRILLING		3. NAME AND TYPE OF BIT		4. DATE AND TIME OF LOGGING	
5. DRILLING AGENCY		6. MANUFACTURER'S DESIGNATION OF DRILL		7. FALLING 1500		8. TOTAL NO. OF OVER-BORE SAMPLES TAKEN	
9. NAME OF DRILLER		10. TOTAL NUMBER CORE BORES		11. ELEVATION GROUND WATER		12. DATE HOLE STARTED	
13. DIRECTION OF HOLE		14. DATE HOLE COMPLETED		15. ELEVATION TOP OF HOLE		16. TOTAL CORE RECOVERY FOR BORING	
17. THICKNESS OF OVERBURDEN		18. DEPTH DRILLED INTO ROCK		19. TOTAL DEPTH OF HOLE		20. SIGNATURE OF INSPECTOR	
21. ELEVATION DEPTH		22. CLASSIFICATION OF MATERIALS		23. CORE SAMPLE NO.		24. REMARKS	
0.0' to 22.5'		CLAY -		Drilling		0.0' to 2.0' 8" auger	
0.0' to 0.8' low plasticity, brown, stiff, moist, sandy				2.0' to 26.0' 6" D			
0.8' to 3.0' becomes light brown, very sandy				26.0' to 39.0' 6" core			
3.0' to 5.0' low plasticity, brown, very stiff, moist, sandy				Jar samples			
5.0' to 22.0' low plasticity, light brown, very stiff, moist, very sandy				A. 0.0' to 0.8'			
13.0' to 15.0' with small, irregular, lime nodules				B. 0.8' to 2.0'			
17.0' becomes very moist				C. 4.0' to 6.0'			
19.0' becomes slightly gravelly				D. 6.0' to 8.0'			
21.0' approaches clayey sand				E. 8.0' to 10.0'			
22.5' to 24.0'				F. 10.0' to 12.0'			
SAND -				G. 12.0' to 14.0'			
light brown, medium dense, very moist, very clayey				H. 14.0' to 16.0'			
24.0' to 29.9'				I. 16.0' to 18.0'			
GRAVEL -				J. 18.0' to 20.0'			
24.0' to 26.0' light brown, medium dense, poorly graded, saturated, clayey, well rounded, averages 1/2" with cobbles to 2"				K. 20.0' to 22.0'			
26.0' to 28.0' becomes very clayey				L. 22.0' to 24.0'			
28.0' to 29.9' with numerous rounded to elongate cobbles, maximum diameter 6"; everything was washed away but the cobbles				M. 24.0' to 26.0'			
				N. 26.0' to 28.0'			
				O. 28.0' to 30.0'			
				Jar samples			
				1. 2.0' to 4.0'			
				2. 4.0' to 6.0'			
				3. 6.0' to 8.0'			
				4. 8.0' to 10.0'			
				5. 10.0' to 12.0'			
				6. 12.0' to 14.0'			
				7. 14.0' to 16.0'			
				8. 16.0' to 18.0'			
				9. 18.0' to 20.0'			
				10. 20.0' to 22.0'			
				11. 22.0' to 24.0'			
				12. 24.0' to 26.0'			
				Carton sample			
				1. 36.8' to 37.7'			
				Water level			
				Hole making water from 24.0' to 29.9'. Four inch plastic pipe, slot from 9.0' to 29.0', where hole had caved in. Hole was backfilled with pea gravel to 10.0'.			
29.9' to 30.0'							
LIMESTONE -							
light gray, well cemented, sandy, slightly stained							
30.0' to 34.2'							
SHALE -							
dark gray, unweathered, non-fractured, non-calcareous, with numerous lenses, pockets, and thin beds of calcareous and non-calcareous sandstone							
32.7' to 33.0' SANDSTONE, brownish-gray, moderately cemented, slightly calcareous							
34.2' to 35.1'							
LIMESTONE -							
light gray well cemented, sandy, with irregular, elongate lenses of light brown non-calcareous clay-sandstone, and occasional shale partings							
35.1' to 38.8'							
SHALE -							
greenish-gray, moderately hard, calcareous, with shales of lime							
38.4' to 38.8' moderately cemented, very light gray, with 0.05' at 30' of softer, greenish-gray shale							
T. D. @ 38.8' in shale							

TO ACCOMPANY FINAL FOUNDATION REE

Note No. 8160-44

rth District		SHEET 1 OF 4 SHEETS	
* OF NO. 1 OF CORREL. 3" DISTANCE			
ELEVATION ABOVE MEAN SEA - 1500			
TEST DESCRIPTION OF DRILL			
1500	RETURNED	UNRETURNED	
14	0		
IN CORE BOXES			
8			
STARTED			
20 APR 75	COMPLETED		
2 MAY 75			
OF OF HOLE			
527.96			
RECOVERY FOR BORING			
95%			

REMARKS
 1. Drilling was done in accordance with the plan of the Corps of Engineers, U.S. Army, Fort Worth, Texas.

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Drilling
 0.0' to 35.8' 8" auger
 35.8' to 75.0' 6" core
 0.0' to 101.0' 3" fish
 tail

For samples
 A. 0.0' to 3.5'
 B. 3.5' to 5.5'
 C. 5.5' to 8.0'
 D. 8.0' to 13.0'
 E. 13.0' to 15.0'
 F. 15.0' to 19.0'
 G. 19.0' to 20.5'
 H. 20.5' to 23.5'
 I. 23.5' to 25.0'
 J. 25.0' to 27.0'
 K. 27.0' to 32.0'
 L. 32.0' to 34.0'
 M. 34.0' to 36.0'
 N. 36.0' to 36.3'

Carbon samples
 1. 43.0' to 43.9'
 2. 51.5' to 52.4'
 3. 59.8' to 60.7'
 4. 73.1' to 74.0'

Water level
 Hole is making water
 from 32.0' to 36.3'. For
 inch plastic pipe,
 slotted from 11.5' to
 41.5', was set from 1.5'
 to 41.5' and backfilled
 with pea gravel to 4.5'

Note
 0.0' to 36.3' calcareous
 36.3' to 70.7' non-cal-
 careous, except well
 cemented zones
 70.7' to 101.0' calcareous

Use to core loss, depth
 of weathering is uncer-
 tain. 30-44 was drilled
 5.0' W of 8160-44 at same
 elevation for purposes
 of geophysical logging.
 Log is based on drill
 action and cuttings

below 74.3'

2

42.5

3

4

5

62.6

6

66.7

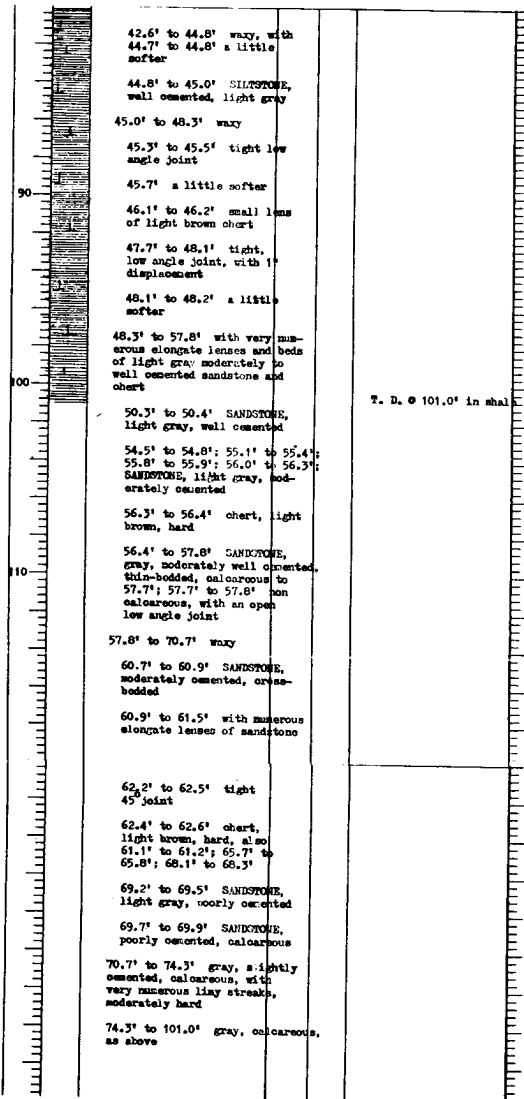
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70.5

8

72.3

2. D. 6" core @ 74.3'

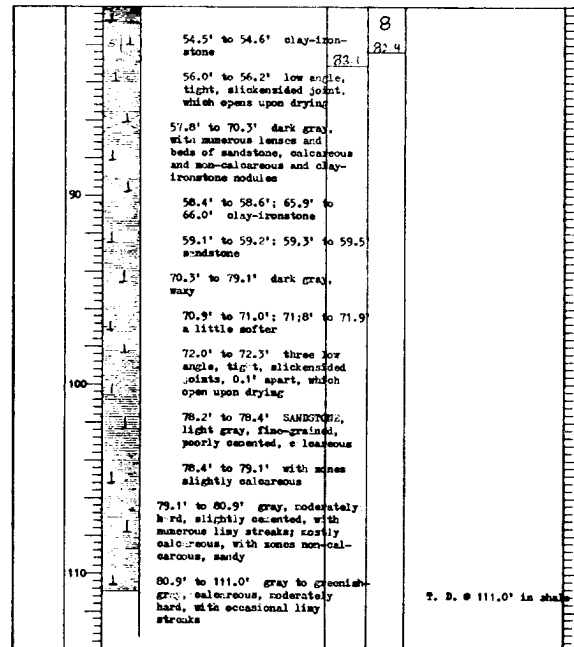


RECORD DRAWING-WORK AS BUILT

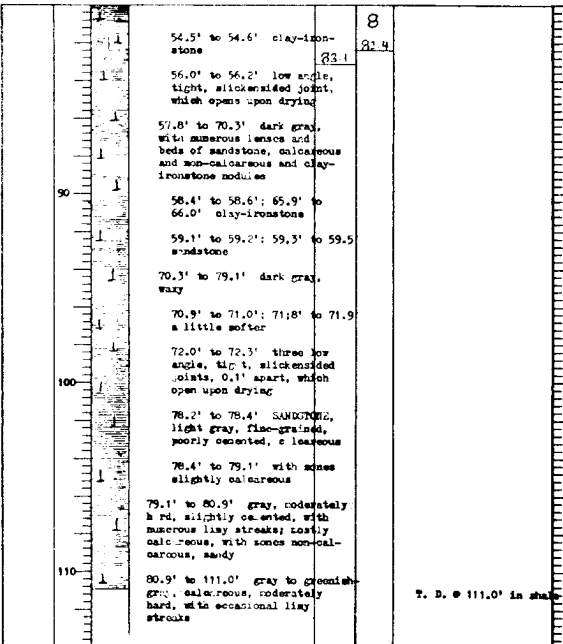
SYN TAG NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6DC-42, 6DC-43 AND 8A6C-44		
SUBMITTED BY:	INV. NO. DACW 63-60-B-0008	DATED: AUG. 1960	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW 63-61-2035	DRAWING NUMBER	SHEET NO.
		B-2008	125

Hole No. 67C-15

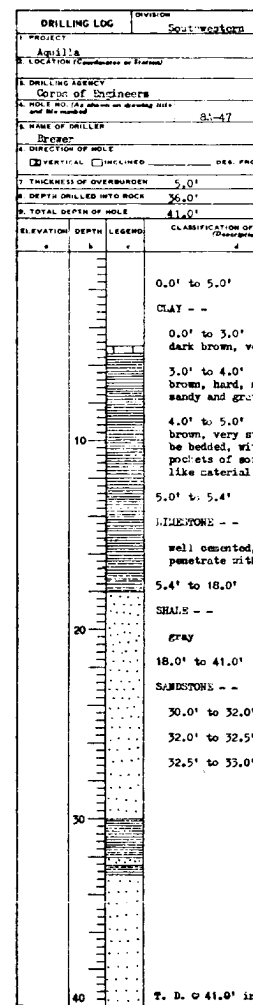
DRILLING LOG		DIVISION		INSTALLATION		Hole No. 67C-15	
PROJECT		LOCATION		DATE		SHEET	
1. PROJECT		2. LOCATION		3. DATE		4. SHEET	
5. DRILLING LOG		6. LOCATION		7. DATE		8. SHEET	
9. DRILLING LOG		10. LOCATION		11. DATE		12. SHEET	
13. DRILLING LOG		14. LOCATION		15. DATE		16. SHEET	
17. DRILLING LOG		18. LOCATION		19. DATE		20. SHEET	
21. DRILLING LOG		22. LOCATION		23. DATE		24. SHEET	
25. DRILLING LOG		26. LOCATION		27. DATE		28. SHEET	
29. DRILLING LOG		30. LOCATION		31. DATE		32. SHEET	
33. DRILLING LOG		34. LOCATION		35. DATE		36. SHEET	
37. DRILLING LOG		38. LOCATION		39. DATE		40. SHEET	
41. DRILLING LOG		42. LOCATION		43. DATE		44. SHEET	
45. DRILLING LOG		46. LOCATION		47. DATE		48. SHEET	
49. DRILLING LOG		50. LOCATION		51. DATE		52. SHEET	
53. DRILLING LOG		54. LOCATION		55. DATE		56. SHEET	
57. DRILLING LOG		58. LOCATION		59. DATE		60. SHEET	
61. DRILLING LOG		62. LOCATION		63. DATE		64. SHEET	
65. DRILLING LOG		66. LOCATION		67. DATE		68. SHEET	
69. DRILLING LOG		70. LOCATION		71. DATE		72. SHEET	
73. DRILLING LOG		74. LOCATION		75. DATE		76. SHEET	
77. DRILLING LOG		78. LOCATION		79. DATE		80. SHEET	
81. DRILLING LOG		82. LOCATION		83. DATE		84. SHEET	
85. DRILLING LOG		86. LOCATION		87. DATE		88. SHEET	
89. DRILLING LOG		90. LOCATION		91. DATE		92. SHEET	
93. DRILLING LOG		94. LOCATION		95. DATE		96. SHEET	
97. DRILLING LOG		98. LOCATION		99. DATE		100. SHEET	



T. D. @ 111.0' is shown



DRILLING LOG		DIVISION		WELL	
PROJECT		Southwestern		Well North District	
LOCATION (Coordinates or Station)		Aquila		82-4	
DRILLING AGENCY		Corps of Engineers		Falling 1900	
HOLE NO. (If different on drawing, give name and No. of hole)		82-46		12	
NAME OF DRILLER		Proctor		12	
DIRECTION OF HOLE		VERTICAL		12	
THICKNESS OF OVERBURDEN		34.5'		12	
DEPTH DRILLED INTO ROCK		2.5'		12	
TOTAL DEPTH OF HOLE		37.0'		12	
ELEVATION		541.87'		12	
CLASSIFICATION OF MATERIAL		CLAY - -		12	
LEGEND		CLAY - -		12	
REMARKS		Hole making water, 30.0' to 34.5'. Four inch plastic pipe, slotted from 17.0' to 37.0', was set from 2.5' to 37.0'. Hole was backfilled with pea gravel to 10.0'.		12	
HOLE NO. (If different on drawing, give name and No. of hole)		82-46		12	
NAME OF DRILLER		Proctor		12	
DIRECTION OF HOLE		VERTICAL		12	
THICKNESS OF OVERBURDEN		34.5'		12	
DEPTH DRILLED INTO ROCK		2.5'		12	
TOTAL DEPTH OF HOLE		37.0'		12	
ELEVATION		541.87'		12	
CLASSIFICATION OF MATERIAL		CLAY - -		12	
LEGEND		CLAY - -		12	
REMARKS		Hole making water, 30.0' to 34.5'. Four inch plastic pipe, slotted from 17.0' to 37.0', was set from 2.5' to 37.0'. Hole was backfilled with pea gravel to 10.0'.		12	



RE
STATION
DESIGN
DRAWN
CHECK
SUBMIT
ENGIN

Mole No. 81-46	
SHEET 1 OF 2 SHEETS	
PROJECT: Fort Worth District	
SHEET: 1 OF 2 SHEETS	
DATE: 19 MAY 75	
MANUFACTURER'S DESIGNATION OF DRILL: Palling 1500	
TOTAL NO. OF BORINGS: 12	
TOTAL NUMBER CORE BOXES: 0	
ELEVATION GROUND WATER: 0	
DATE MOLE: 19 MAY 75	
ELEVATION TOP OF MOLE: 541.87'	
TOTAL CORE RECOVERY FOR BORING: 1	
SIGNATURE OF SUPERVISOR: [Signature]	
REMARKS: (Drilling data, water level, depth of penetration, etc., if applicable)	
<p>Drilling</p> <p>0.0' to 37.0' 8" auger 0.0' to 121.0' 3" fish-tail</p> <p>Jar samples</p> <p>A. 0.0' to 3.0' B. 3.0' to 6.5' C. 6.5' to 10.8' D. 10.8' to 13.0' E. 13.0' to 15.5' F. 15.5' to 17.0' G. 17.0' to 20.3' H. 20.3' to 24.0' I. 24.0' to 28.2' J. 28.2' to 30.0' K. 30.0' to 33.0' L. 33.0' to 34.5'</p> <p>Water level</p> <p>Hole making water, 30.0' to 34.5'. Four inch plastic pipe, slotted from 17.0' to 37.0', was set from 2.5' to 37.0'. Hole was backfilled with pea gravel to 10.0'.</p> <p>Note</p> <p>SP-46 was drilled to 121.0' and was offset. 6.0' of 81-46 at the same elevation, for purpose of geophysical logging.</p> <p>0.0' to 34.5' calcareous 34.5' to 37.0' non-calcareous 34.5' to 37.0' weathered</p>	

Mole No. P-47	
SHEET 1 OF 1 SHEETS	
PROJECT: Fort Worth District	
SHEET: 1 OF 1 SHEETS	
DATE: 15 APR 75	
MANUFACTURER'S DESIGNATION OF DRILL: Palling 1500	
TOTAL NO. OF BORINGS: 3	
TOTAL NUMBER CORE BOXES: 0	
ELEVATION GROUND WATER: 0	
DATE MOLE: 15 APR 75	
ELEVATION TOP OF MOLE: 586.92'	
TOTAL CORE RECOVERY FOR BORING: 1	
SIGNATURE OF SUPERVISOR: [Signature]	
REMARKS: (Drilling data, water level, depth of penetration, etc., if applicable)	
<p>Drilling</p> <p>0.0' to 5.0' 8" auger refusal at 5.0'</p> <p>0.0' to 41.0' 3" fish-tail</p> <p>Jar samples</p> <p>A. 0.0' to 3.0' B. 3.0' to 4.0' C. 4.0' to 5.0'</p> <p>Water level</p> <p>Hole dry at completion of augering. 24 hour check - dry.</p> <p>Note</p> <p>0.0' to 3.0' non calcareous 3.0' to 5.4' calcareous 5.4' to 41.0' non calcareous</p> <p>SP-47 was drilled 8.0' of 81-47 for purpose of geophysical logging. Log is based on cutting and drill action below 5.0'.</p>	

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-45, 8A-46 AND 47		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085 DATED: AUG 1980		
ENGINEER:	CONTR. NO. DACW63-B1-0035		
	DRAWING NUMBER	SHEET NO.	SEQUENCE NO.
		B-21 of	126

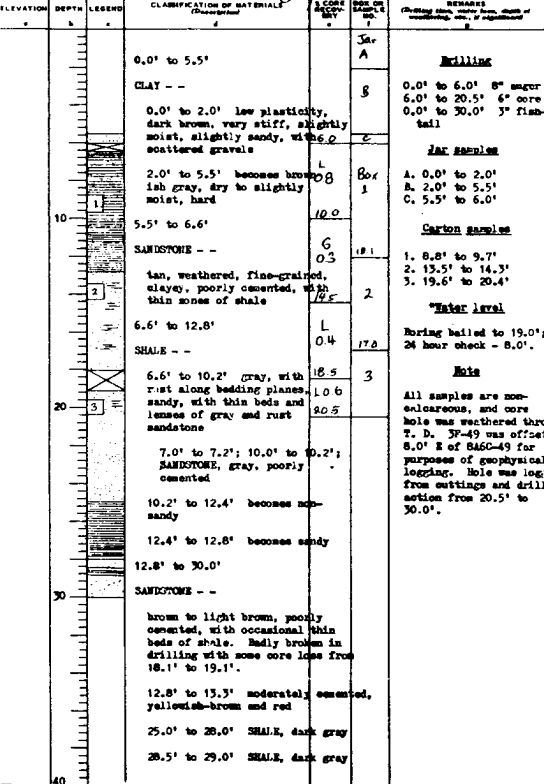
Hole No. 846C-49

BELLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Port Worth District		Hole No. 846C-49		OF 2 SHEETS	
1. LOCATION (Continued on Reverse)				2. MANUFACTURER'S DESIGNATION OF DRILL			
3. BELLING AGENCY				4. FALLING 1500			
5. NAME OF DRILLER				6. TOTAL NO. OF CORES			
7. NAME OF DRILLER				8. TOTAL NUMBER CORE BOXES			
9. DATE OF DRILLING				10. ELEVATION GROUND WATER			
11. DATE OF DRILLING				12. DATE OF DRILLING			
13. DATE OF DRILLING				14. DATE OF DRILLING			
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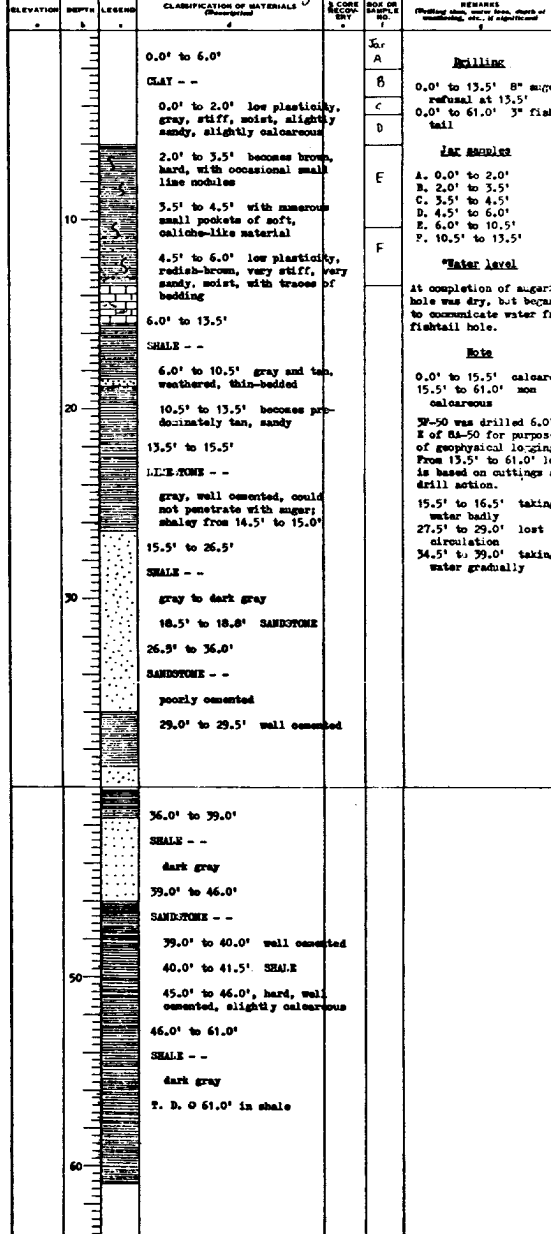
Hole No. 846C-49

BELLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Port Worth District		Hole No. 846C-49		OF 2 SHEETS	
1. LOCATION (Continued on Reverse)				2. MANUFACTURER'S DESIGNATION OF DRILL			
3. BELLING AGENCY				4. FALLING 1500			
5. NAME OF DRILLER				6. TOTAL NO. OF CORES			
7. NAME OF DRILLER				8. TOTAL NUMBER CORE BOXES			
9. DATE OF DRILLING				10. ELEVATION GROUND WATER			
11. DATE OF DRILLING				12. DATE OF DRILLING			
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DIVISION Southwestern		INSTALLATION Fort Worth District		SHEET 1 OF 1 SHEETS	
PROJECT Amelia					
1. LOCATION (Coordinate or Station)					
2. DRILLING AGENCY Corps of Engineers					
3. DATE OF DRILLING 8-60-49					
4. NAME OF DRILLER Brewer					
5. DIRECTION OF HOLE VERTICAL					
6. DATE MOLE 9 Apr 75					
7. ELEVATION TOP OF MOLE 579.12'					
8. TOTAL CORE RECOVERY FOR BORING 82%					
9. SIGNATURE OF INSPECTOR J. H. H. H.					



DIVISION Southwestern		INSTALLATION Fort Worth District		SHEET 2 OF 2 SHEETS	
PROJECT Amelia					
1. LOCATION (Coordinate or Station)					
2. DRILLING AGENCY Corps of Engineers					
3. DATE OF DRILLING 8-60-50					
4. NAME OF DRILLER Brewer					
5. DIRECTION OF HOLE VERTICAL					
6. DATE MOLE 15 Apr 75					
7. ELEVATION TOP OF MOLE 592.8					
8. TOTAL CORE RECOVERY FOR BORING 52%					
9. SIGNATURE OF INSPECTOR J. H. H. H.					



RECORD DRAW

SHEET NO.		ACTION	
U.S. AR			
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:			
ENGINEER:			

Division		Installation		Sheet No.	
Southwestern		Fort Worth District		Sheet 1 of 1	
10. SITE AND TYPE OF HOLE		11. DATE AND TIME OF HOLE		12. NAME OF HOLE	
10.0' to 61.0'		12 Apr 75		12 Apr 75	
13. MANUFACTURER'S DESIGNATION OF HOLE		14. TOTAL NO. OF HOLE		15. TOTAL NO. OF HOLE	
Pilling 1500		4		0	
16. TOTAL NUMBER CORE BORES		17. ELEVATION GROUND WATER		18. ELEVATION TOP OF HOLE	
0		0		595.8	
19. DATE HOLE		20. DATE HOLE		21. DATE HOLE	
12 Apr 75		12 Apr 75		12 Apr 75	
22. ELEVATION TOP OF HOLE		23. TOTAL CORE RECOVERY FOR BORING		24. PERCENTAGE OF RECOVERY	
595.8		100%		100%	
25. CLASSIFICATION OF MATERIALS		26. REMARKS		27. REMARKS	
CLAY --		0.0' to 13.5' 8" mortar		0.0' to 13.5' 8" mortar	
0.0' to 2.0' low plasticity, gray, stiff, moist, slightly sandy, slightly calcareous		2.0' to 3.5' becomes brown, hard, with occasional small fine nodules		3.5' to 4.5' with numerous small pockets of soft, calciche-like material	
4.5' to 6.0' low plasticity, reddish-brown, very stiff, very sandy, moist, with traces of bedding		6.0' to 13.5'		13.5' to 15.5'	
SHALE --		6.0' to 10.5' gray and tan, weathered, thin-bedded		10.5' to 13.5' becomes predominantly tan, sandy	
13.5' to 15.5'		15.5' to 16.5'		16.5' to 18.5'	
SANDSTONE --		gray, well cemented, could not penetrate with auger; shaley from 14.5' to 15.0'		15.5' to 16.5' taking water badly	
15.5' to 26.5'		SHALE --		gray to dark gray	
18.5' to 18.8' SANDSTONE		26.5' to 36.0'		SANDSTONE --	
poorly cemented		29.0' to 29.5' well cemented		36.0' to 39.0'	
SHALE --		dark gray		39.0' to 46.0'	
SANDSTONE --		39.0' to 40.0' well cemented		40.0' to 41.5' SHALE	
45.0' to 46.0' hard, well cemented, slightly calcareous		46.0' to 61.0'		SHALE --	
dark gray		2. D. 0 61.0' in shale			

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-48, 49 AND 8A-50		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED:	AUG. 1980
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SEQUENCE NO.	127
	DRAWING NUMBER	SHEET NO.	B-22 of

U. S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

WELL LOG
No. 11

Location: *Southwestern*

Section: *Fort Worth District*

Sheet: *2*

Scale: *1 inch = 10 feet*

Driller: *W. H. Smith*

Date: *1915*

Well No.: *84-51*

Depth: *80.0'*

Remarks: *See log for details*

Log Description:

- 0.0' to 5.5' *CLAY -*
- 5.5' to 12.5' *SANDSTONE -*
- 12.5' to 13.3' *SANDSTONE -*
- 13.3' to 16.5' *SANDSTONE -*
- 16.5' to 19.5' *SANDSTONE -*
- 19.5' to 24.0' *SANDSTONE -*
- 24.0' to 27.0' *SANDSTONE -*
- 27.0' to 32.0' *SANDSTONE -*
- 32.0' to 34.5' *SANDSTONE -*
- 34.5' to 36.5' *SANDSTONE -*
- 36.5' to 40.0' *SANDSTONE -*
- 40.0' to 45.0' *SANDSTONE -*
- 45.0' to 80.0' *SANDSTONE -*

Notes:

- 0.0' to 5.5' low plasticity, dark brown, stiff, moist, slightly sandy with numerous large cobbles of quartz and chert*
- 5.5' to 12.5' low plasticity, light brown, very stiff, slightly sandy and silty, with numerous small pockets of soft, caliche-like material*
- 12.5' to 13.3' becomes hard, with concrete pockets of soft, caliche-like material, a trace of bedding*
- 13.3' to 16.5' weathered, tan, slightly sandy, thin-bedded, becomes sandy at 6.5'*
- 16.5' to 19.5' becomes a little harder to auger*
- 19.5' to 24.0' moderately cemented, light gray, no sample taken*
- 24.0' to 27.0' dark gray, with numerous lenses of poorly cemented gray sandstone*
- 27.0' to 32.0' tan, soft, poorly cemented, saturated*
- 32.0' to 34.5' becomes moderately cemented, very difficult to auger*
- 34.5' to 36.5' becomes clayey*
- 36.5' to 40.0' poorly cemented*
- 40.0' to 45.0' poorly cemented*
- 45.0' to 80.0' dark gray*

No. 10

DRILLING LOG		Section		Part North Meridian		No. 10	
1. PROJECT		Well		No. 10		No. 10	
2. LOCATION (State or District)		3. PROPERTY DESIGNATION OF WELL		4. DATE AND TIME OF DAY		5. NAME OF DRILLER	
6. WELL LOG		7. DATE		8. TIME		9. NAME	
10. NAME OF DRILLER		11. DATE		12. TIME		13. NAME	
14. ELEVATION OF BORE		15. DATE		16. TIME		17. NAME	
18. ELEVATION OF BORE		19. DATE		20. TIME		21. NAME	
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466. ELEVATION OF BORE		467. DATE		468. TIME		469. NAME	
470. ELEVATION OF BORE		471. DATE		472. TIME		473. NAME	
474. ELEVATION OF BORE		475. DATE		476. TIME		477. NAME	
478. ELEVATION OF BORE		479. DATE		480. TIME		481. NAME	
482. ELEVATION OF BORE		483. DATE		484. TIME		485. NAME	
486. ELEVATION OF BORE		487. DATE		488. TIME		489. NAME	
490. ELEVATION OF BORE		491. DATE		492. TIME		493. NAME	
494. ELEVATION OF BORE		495. DATE		496. TIME		497. NAME	
498. ELEVATION OF BORE		499. DATE		500. TIME		501. NAME	
502. ELEVATION OF BORE		503. DATE		504. TIME		505. NAME	
506. ELEVATION OF BORE		507. DATE		508. TIME		509. NAME	
510. ELEVATION OF BORE		511. DATE		512. TIME		513. NAME	
514. ELEVATION OF BORE		515. DATE		516. TIME		517. NAME	
518. ELEVATION OF BORE		519. DATE		520. TIME		521. NAME	
522. ELEVATION OF BORE		523. DATE		524. TIME		525. NAME	
526. ELEVATION OF BORE		527. DATE		528. TIME		529. NAME	
530. ELEVATION OF BORE		531. DATE		532. TIME		533. NAME	
534. ELEVATION OF BORE		535. DATE		536. TIME		537. NAME	
538. ELEVATION OF BORE		539. DATE		540. TIME		541. NAME	
542. ELEVATION OF BORE		543. DATE		544. TIME		545. NAME	
546. ELEVATION OF BORE		547. DATE		548. TIME		549. NAME	
550. ELEVATION OF BORE		551. DATE		552. TIME		553. NAME	
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566. ELEVATION OF BORE		567. DATE		568. TIME		569. NAME	
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582. ELEVATION OF BORE		583. DATE		584. TIME		585. NAME	
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590. ELEVATION OF BORE		591. DATE		592. TIME		593. NAME	
594. ELEVATION OF BORE		595. DATE		596. TIME		597. NAME	
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614. ELEVATION OF BORE		615. DATE		616. TIME		617. NAME	
618. ELEVATION OF BORE		619. DATE		620. TIME		621. NAME	
622. ELEVATION OF BORE		623. DATE		624. TIME		625. NAME	
626. ELEVATION OF BORE		627. DATE		628. TIME		629. NAME	
630. ELEVATION OF BORE		631. DATE		632. TIME		633. NAME	
634. ELEVATION OF BORE		635. DATE		636. TIME		637. NAME	
638. ELEVATION OF BORE		639. DATE		640. TIME		641. NAME	
642. ELEVATION OF BORE		643. DATE		644. TIME		645. NAME	
646. ELEVATION OF BORE		647. DATE		648. TIME		649. NAME	
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654. ELEVATION OF BORE		655. DATE		656. TIME		657. NAME	
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662. ELEVATION OF BORE		663. DATE		664. TIME		665. NAME	
666. ELEVATION OF BORE		667. DATE		668. TIME		669. NAME	
670. ELEVATION OF BORE		671. DATE		672. TIME		673. NAME	
674. ELEVATION OF BORE		675. DATE		676. TIME		677. NAME	
678. ELEVATION OF BORE		679. DATE		680. TIME		681. NAME	
682. ELEVATION OF BORE		683. DATE		684. TIME		685. NAME	
686. ELEVATION OF BORE		687. DATE		688. TIME		689. NAME	
690. ELEVATION OF BORE		691. DATE		692. TIME		693. NAME	
694. ELEVATION OF BORE		695. DATE		696. TIME		697. NAME	
698. ELEVATION OF BORE		699. DATE		700. TIME		699. NAME	
702. ELEVATION OF BORE		703. DATE		704. TIME		705. NAME	
706. ELEVATION OF BORE		707. DATE		708. TIME		709. NAME	
710. ELEVATION OF BORE		711. DATE		712. TIME		713. NAME	
714. ELEVATION OF BORE		715. DATE		716. TIME		717. NAME	
718. ELEVATION OF BORE		719. DATE		720. TIME		719. NAME	
722. ELEVATION OF BORE		723. DATE		724. TIME		725. NAME	
726. ELEVATION OF BORE		727. DATE		728. TIME		729. NAME	
730. ELEVATION OF BORE		731. DATE		732. TIME		733. NAME	
734. ELEVATION OF BORE		735. DATE		736. TIME		735. NAME	
738. ELEVATION OF BORE		739. DATE		740. TIME		739. NAME	
742. ELEVATION OF BORE		743. DATE		744. TIME		743. NAME	
746. ELEVATION OF BORE		747. DATE		748. TIME		747. NAME	
750. ELEVATION OF BORE		751. DATE		752. TIME		751. NAME	
754. ELEVATION OF BORE		755. DATE		756. TIME		755. NAME	
758. ELEVATION OF BORE		759. DATE		760. TIME		759. NAME	
762. ELEVATION OF BORE		763. DATE		764. TIME		763. NAME	
766. ELEVATION OF BORE		767. DATE		768. TIME		767. NAME	
770. ELEVATION OF BORE		771. DATE		772. TIME		771. NAME	
774. ELEVATION OF BORE		775. DATE		776. TIME		775. NAME	
778. ELEVATION OF BORE		779. DATE		780. TIME		779. NAME	
782. ELEVATION OF BORE		783. DATE		784. TIME		783. NAME	
786. ELEVATION OF BORE		787. DATE		788. TIME		787. NAME	
790. ELEVATION OF BORE		791. DATE		792. TIME		791. NAME	
794. ELEVATION OF BORE		795. DATE		796. TIME		795. NAME	
798. ELEVATION OF BORE		799. DATE		800. TIME		799. NAME	
802. ELEVATION OF BORE		803. DATE		804. TIME		803. NAME	
806. ELEVATION OF BORE		807. DATE		808. TIME		807. NAME	

Model No. BASC-52[illegible][illegible]

1. DRILLING LOG		DIVISION Southern steam		INSTALLATION 10P	
2. PROJECT Amelia				10. SIZE AND 11. DAYTON PD	
3. LOCATION (Continuation or Repeat) 00				12. MANUFACT Fai	
4. DRILLING AGENCY Corps of Engineers				13. TOTAL MG NO NUMBER 2	
5. HOLE NO. (Holes are changing sites and life numbers)		84-53		14. TOTAL HU 15. ELEVAHTE	
6. NAME OF DRILLER Bryant				16. DATE NOV 17. ELEVAHTE	
7. DIRECTION OF HOLE VERTICAL <input checked="" type="checkbox"/> INCLINED <input type="checkbox"/>		DEG. FROM VERT.		18. TOTAL CC 19. NEGATIVE	
8. THICKNESS OF OVERBURDEN 6.0'				20. TOTAL CC	
9. DEPTH DRILLED INTO ROCK 14.0'					
10. TOTAL DEPTH OF HOLE 20.0'					

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	NO.
a	b	c	d	e
			0.0' to 6.0'	
			CLAY --	
			0.0' to 2.0' low plasticity, brownish-gray, stiff, moist, sandy, with scattered gravels	
			2.0' to 4.0' low plasticity, brown, very stiff, moist, sand slightly calcareous	
	10		4.0' to 6.0' becomes gray an tan, with a suggestion of bedding, occasional small lim nodules, non-calcareous	
			6.0' to 15.5'	
			SHALE --	
			6.0' to 13.0' badly weather gray and tan, traces of bedde structure, moist, sandy, with pockets very silty; sand cont increases toward base	
	20		13.0' to 15.5' very sandy w pockets of clayey sand, very moist	
			15.5' to 20.0'	
			SAND --	
			15.5' to 16.5' loose, saturs	
			16.5' to 20.0' becomes porci cemented, a little harder to auger, no sample	
			T. D. 0 20.0' in sand	

RECORD DRAWING-VC

VITALIA NO.		ACTION		DAY	
U.S. ARMY E					
DESIGNED BY:					

DRAWN BY:					

CHECKED BY:					

SUBMITTED BY:					

ENGINEER:					

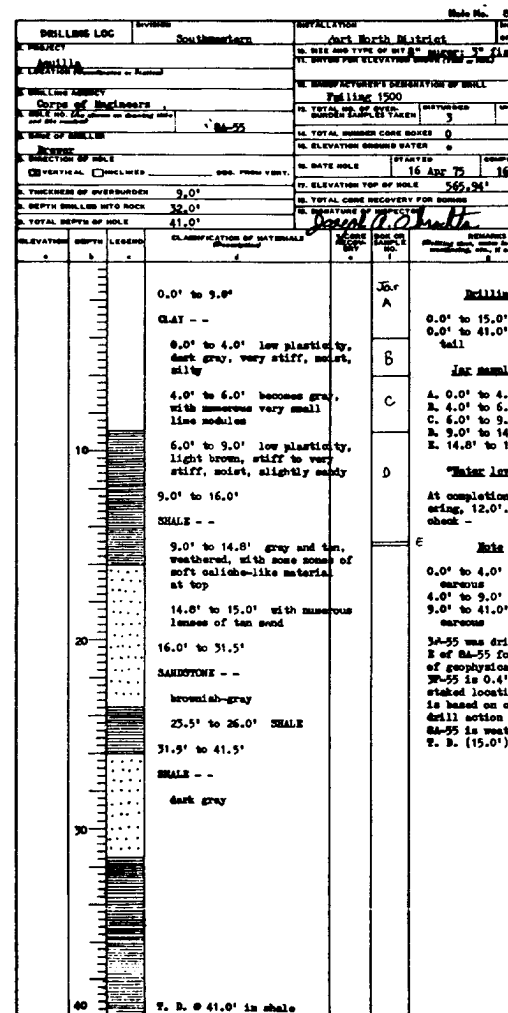
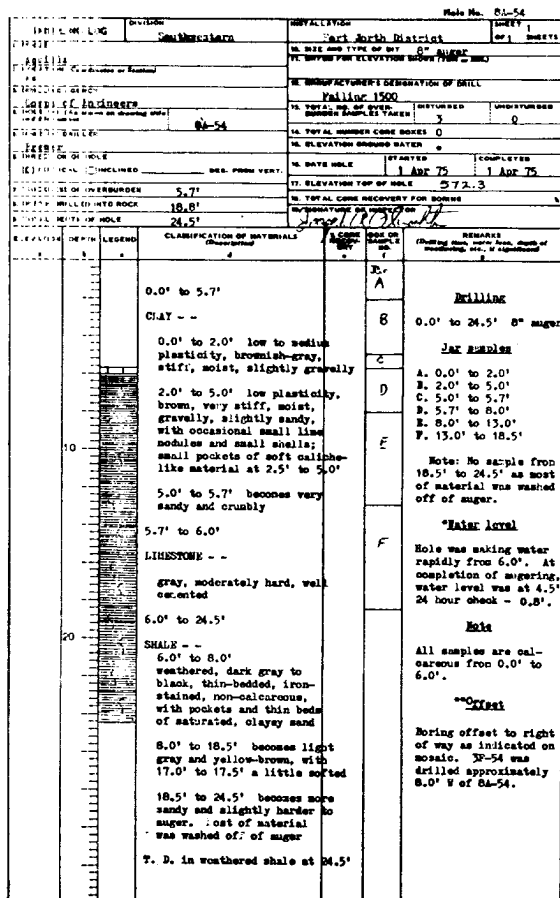
DRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Fort Worth District		SHEET 1		OF 1 SHEETS	
PROJECT		NAME AND TYPE OF SITE		DATE		SHEET	
AQUILLA LAKE		SOUTH CREEK		2 APR 75		2 APR 75	
1. LOCATION (Coordinate or Station)		2. MANUFACTURER'S DESIGNATION OF DRILL		3. TOTAL NO. OF OVER-DRIVEN		4. UNDISTURBED	
60		Falling 1500		5. BURDEN SAMPLE TAKEN		6. 0	
7. DRILLING AGENCY		8. TOTAL NUMBER CORE BOXES		9. ELEVATION GROUND WATER		10. 0	
Corps of Engineers		0		11. DATE HOLE		12. 2 APR 75	
A. HOLE NO. (As shown on drawing and in the log)		B. DATE HOLE		C. ELEVATION TOP OF HOLE		D. 576.0	
BA-53		2 APR 75		13. TOTAL CORE RECOVERY FOR BORING		14. 0	
C. NAME OF DRILLER		D. SIGNATURE OF INSPECTOR		15. ELEVATION GROUND WATER		16. 0	
Brewer		[Signature]		17. DATE HOLE		18. 2 APR 75	
E. DIRECTION OF HOLE		F. SIGNATURE OF INSPECTOR		19. ELEVATION TOP OF HOLE		20. 576.0	
[Initials]		[Signature]		21. TOTAL CORE RECOVERY FOR BORING		22. 0	
G. THICKNESS OF OVERBURDEN		H. SIGNATURE OF INSPECTOR		23. ELEVATION GROUND WATER		24. 0	
6.0'		[Signature]		25. TOTAL CORE RECOVERY FOR BORING		26. 0	
I. DEPTH DRILLED INTO ROCK		J. SIGNATURE OF INSPECTOR		27. ELEVATION GROUND WATER		28. 0	
14.0'		[Signature]		29. TOTAL CORE RECOVERY FOR BORING		30. 0	
K. TOTAL DEPTH OF HOLE		L. SIGNATURE OF INSPECTOR		31. ELEVATION GROUND WATER		32. 0	
20.0'		[Signature]		33. TOTAL CORE RECOVERY FOR BORING		34. 0	
ELEVATION		DEPTH		LEGEND		CLASSIFICATION OF MATERIALS	
0.0'		6.0'		CLAY --		0.0' to 2.0' low plasticity, brownish-gray, stiff, moist, sandy, with scattered gravels	
2.0'		4.0'		2.0' to 4.0' low plasticity, brown, very stiff, moist, sandy, slightly calcareous		4.0' to 6.0' becomes gray and tan, with a suggestion of bedding, occasional small line nodules, non-calcareous	
6.0'		15.5'		SHALE --		6.0' to 13.0' badly weathered, gray and tan, traces of bedded structure, moist, sandy, with pockets very silty; sand content increases toward base	
13.0'		15.5'		13.0' to 15.5' very sandy with pockets of clayey sand, very moist		15.5' to 20.0'	
15.5'		20.0'		SAND --		15.5' to 16.5' loose, saturated, no sample	
16.5'		20.0'		16.5' to 20.0' becomes poorly cemented, a little harder to auger, no sample		T. D. 0 20.0' in sand	

RECORD DRAWING-WORK AS BUILT

REV.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	EMBANKMENT AND SPILLWAY			
CHECKED BY:	LOGS OF BORINGS BA-51, 52 AND 53			
SUBMITTED BY:	INV. NO. DACW63-80-8-0085 DATED: AUG. 1980			
ENGINEER:	CONTR. NO. DACW63-80-8-0085			
	DRAWING NUMBER			
	SHEET NO. 128			
	8-23 of			

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 54



Drilling Log Form 84-55

PROJECT: **Southwestern** DIVISION: **Port North District** SHEET: **1**

LOCATION: **Avilla** (Coordinate or Section)

DATE: **16 Apr 75** TIME: **16 Apr 75**

DRILLING AGENCY: **Corps of Engineers**

NAME OF DRILLER: **BA-55**

THICKNESS OF OVERBURDEN: **9.0'**

DEPTH DRILLED INTO ROCK: **32.0'**

TOTAL DEPTH OF HOLE: **41.0'**

CLASSIFICATION OF MATERIALS:

DEPTH	LEGEND	DESCRIPTION
0.0' to 9.0'	CLAY --	0.0' to 15.0' 8" auger 0.0' to 41.0' 3" fish tail
9.0' to 16.0'	SHALE --	At completion of augering, 12.0' 46 hour check --
16.0' to 31.5'	SANDSTONE --	3A-55 was drilled 10.0' E of 8A-55 for purpose of geophysical logging. 3A-55 is 0.4' higher than stated location. Log is based on cuttings and drill action below 15.0'. 8A-55 is weathered to 9.0' (15.0').
31.5' to 41.5'	SHALE --	dark gray

T. D. @ 41.0' in shale

Drilling Log Form 84-56

PROJECT: **Southwestern** DIVISION: **Port North District** SHEET: **2**

LOCATION: **Avilla** (Coordinate or Section)

DATE: **16 Apr 75** TIME: **16 Apr 75**

DRILLING AGENCY: **Corps of Engineers**

NAME OF DRILLER: **BA-56**

THICKNESS OF OVERBURDEN: **6.0'**

DEPTH DRILLED INTO ROCK: **53.0'**

TOTAL DEPTH OF HOLE: **59.0'**

CLASSIFICATION OF MATERIALS:

DEPTH	LEGEND	DESCRIPTION
0.0' to 6.0'	CLAY --	0.0' to 14.5' 8" auger 0.0' to 59.0' 3" fish tail
6.0' to 16.0'	SAND (primary) --	6.0' to 8.5' tan, moist, non cemented, fine-grained with occasional ironstone concretions 8.5' to 10.5' becomes very moist 10.5' to 16.0' becomes saturated 16.0' to 59.0' shale -- unweathered, dark gray
59.0' to 59.2'	CLAYSTONE	
45.5' to 45.7'	CLAYSTONE	
47.0' to 47.3'	CLAYSTONE	
T. D. @ 59.0'	in shale	

Remarks: 3A-56 was drilled on 4 for purpose of geophysical logging, and 8A-56 was drilled 12' north. Logging from 14.5' to 59.0' was done by drill response and cuttings. Weathered to 16.0'. Jar samples A through C were relogged with the following reclassifications:
A. 0.0' to 2.0' SAND: clayey to very clayey.
B. 2.0' to 3.0' SAND: very clayey.
C. 3.0' to 6.0' SAND: silty & clayey, highly weathered primary stratum.

H. M. Rouse

Drilling Log Form 84-57

PROJECT: **Southwestern** DIVISION: **Port North District** SHEET: **3**

LOCATION: **Avilla** (Coordinate or Section)

DATE: **16 Apr 75** TIME: **16 Apr 75**

DRILLING AGENCY: **Corps of Engineers**

NAME OF DRILLER: **BA-57**

THICKNESS OF OVERBURDEN: **9.0'**

DEPTH DRILLED INTO ROCK: **32.0'**

TOTAL DEPTH OF HOLE: **41.0'**

CLASSIFICATION OF MATERIALS:

DEPTH	LEGEND	DESCRIPTION
0.0' to 20.0'	CLAY --	0.0' to 4.0' plasticity, dark gray, very stiff, moist, silty
20.0' to 25.0'	SAND --	tan, loose & silty, slightly saturated
25.0' to 26.0'	GRAVEL --	tan, medium ds saturated, with refusal at 26.0'
T. D. @ 26.0'	in	

RECORD DRAWING

U.S. ARMY

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

ENGINEER: _____

TO ACCOMPANY FINAL FOUNDATION

Hole No. 8A-56		SHEET 1	
Port North District			
SITE AND TYPE OF BTY 8" super; 3" lightail			
DATE FOR ELEVATION SHOWN (YR - MO - DAY)			
MANUFACTURER'S DESIGNATION OF DRILL			
Pulling 1500			
TOTAL NO. OF CORES 3			
TOTAL NUMBER CORE BOXES 0			
ELEVATION GROUND WATER			
DATE HOLE STARTED 2 APR 75			
COMPLETED 2 APR 75			
ELEVATION TOP OF HOLE 562.3			
TOTAL CORE RECOVERY FOR BORING			
REMARKS			
<p>Drilling</p> <p>0.0' to 14.5' 8" super</p> <p>0.0' to 59.0' 3" fish</p> <p>Jar samples</p> <p>A. 0.0' to 2.0'</p> <p>B. 2.0' to 3.0'</p> <p>C. 3.0' to 6.0'</p> <p>D. 6.0' to 8.5'</p> <p>E. 8.5' to 10.5'</p> <p>F. 10.5' to 14.5'</p> <p>*Water level</p> <p>Hole was taking water rapidly from 11.5' to 14.5'.</p> <p>Note</p> <p>8A-56 was drilled on 6 for purposes of geophysical logging, and 8A-56 was drilled 12' north. Logging from 14.5' to 59.0' was done by drill response and cuttings. Weathered to 16.0'.</p> <p>Jar samples A through C were relogged with the following reclassifications:</p> <p>0.0 to 2.0 SAND: clayey to very clayey</p> <p>2.0 to 3.0 SAND: very clayey</p> <p>3.0 to 6.0 SAND: silt & clayey, highly weathered primary stratum</p> <p><i>J. H. Rouse</i></p>			

Hole No. 8A-57		SHEET 1	
Port North District			
SITE AND TYPE OF BTY 8" super; 3" lightail			
DATE FOR ELEVATION SHOWN (YR - MO - DAY)			
MANUFACTURER'S DESIGNATION OF DRILL			
Pulling 1500			
TOTAL NO. OF CORES 6			
TOTAL NUMBER CORE BOXES 0			
ELEVATION GROUND WATER			
DATE HOLE STARTED 9 JUNE 75			
COMPLETED 9 JUNE 75			
ELEVATION TOP OF HOLE 501.3			
TOTAL CORE RECOVERY FOR BORING			
REMARKS			
<p>Drilling</p> <p>0.0' to 26.0' 8" super</p> <p>refusal at 26.0'</p> <p>Jar samples</p> <p>A. 0.0' to 4.0'</p> <p>B. 4.0' to 9.0'</p> <p>C. 9.0' to 14.0'</p> <p>D. 14.0' to 20.0'</p> <p>E. 20.0' to 25.0'</p> <p>F. 25.0' to 26.0'</p> <p>*Water level</p> <p>Hole making water at 20.0'; at completion of auguring, water level at 12.0'; 24 hour check 13.0'.</p> <p>**Offset</p> <p>Boring was offset approximately 70.0', as shown on mosaic. New elevation will be determined.</p> <p>Note</p> <p>All samples are calcareous. 8A-57 was drilled adjacent to super hole for purposes of geophysical logging.</p> <p>This is a relogging of 8A-57.</p> <p>The clay in jars A to C has dried out somewhat.</p>			

RECORD DRAWING-WORK AS BUILT

REVISING NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A-54, 55, 56 AND 8A3F-57		
SUBMITTED BY:	INV. NO. DACW63-80-8-0085	DATED: AUG 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-81-C-0015	DRAWING NUMBER	SHEET NO. 129
			OF 129

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 55

[illegible][illegible]

Well No. 643-59

DRILLING LOG	DIVISION	INSTALLATION	SHEET
Southwestern	Port North District	643-59	OF 1 SHEETS
1. PROJECT			
2. LOCATION (Coordinate or Station)			
3. DRILLING AGENCY			
4. NAME OF DRILLER			
5. DATE MOLE			
6. ELEVATION TOP OF HOLE			
7. THICKNESS OF OVERBURDEN			
8. DEPTH DRILLED INTO ROCK			
9. TOTAL DEPTH OF HOLE			
10. REMARKS			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	REMARKS
0.0'	0.0'		CLAY --	
0.0'	0.0'		low plasticity, brown, moist, sandy, crumbly, non-calcareous, with very small line nodules	
0.8'	0.8'		low plasticity, brown, hard, moist, slightly sandy, slightly calcareous	
3.5'	3.5'		becomes gravelly	
4.5'	4.5'		low plasticity, reddish-brown, very stiff, moist, sandy and gravelly, calcareous	
6.0'	6.0'		SHALE --	
6.0'	6.0'		weathered, gray and tan, non-calcareous	
7.0'	7.0'		in shale	

Well No. 76A-50

DRILLING LOG	DIVISION	INSTALLATION	SHEET
Southwestern	Port North District	76A-50	OF 2 SHEETS
1. PROJECT			
2. LOCATION (Coordinate or Station)			
3. DRILLING AGENCY			
4. NAME OF DRILLER			
5. DATE MOLE			
6. ELEVATION TOP OF HOLE			
7. THICKNESS OF OVERBURDEN			
8. DEPTH DRILLED INTO ROCK			
9. TOTAL DEPTH OF HOLE			
10. REMARKS			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	REMARKS
0.0'	0.0'		CLAY --	
0.0'	0.0'		low plasticity, brown, sandy	
19.0'	19.0'		SAND --	
27.0'	27.0'		tan, loose to medium dense, clayey at top, moist	
35.5'	35.5'		GRAVEL and SAND --	
35.5'	35.5'		difficult to pick out contents on auger; gravel dark brown, well graded, very moist to saturated at 34.0'; sand - tan, gravelly	
35.5'	35.5'		SHALE --	
35.5'	35.5'		dark gray, unweathered, non-calcareous, with numerous thin lenses of sandstone, and nodules of clay-ironstone	
35.5'	35.5'		39.9' clay-ironstone	
35.5'	35.5'		44.7' to 44.8' clay-ironstone nodules	
35.5'	35.5'		SANDSTONE --	
35.5'	35.5'		well cemented, could not penetrate with auger or dry barrel	
35.5'	35.5'		T. D. @ 34.5' in sandstone	

Well No. 76A-50

DRILLING LOG	DIVISION	INSTALLATION	SHEET
Southwestern	Port North District	76A-50	OF 2 SHEETS
1. PROJECT			
2. LOCATION (Coordinate or Station)			
3. DRILLING AGENCY			
4. NAME OF DRILLER			
5. DATE MOLE			
6. ELEVATION TOP OF HOLE			
7. THICKNESS OF OVERBURDEN			
8. DEPTH DRILLED INTO ROCK			
9. TOTAL DEPTH OF HOLE			
10. REMARKS			

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIAL	REMARKS
0.0'	0.0'		CLAY --	
0.0'	0.0'		low plasticity, brown, moist, sandy, crumbly, non-calcareous, with very small line nodules	
0.8'	0.8'		low plasticity, brown, hard, moist, slightly sandy, slightly calcareous	
3.5'	3.5'		becomes gravelly	
4.5'	4.5'		low plasticity, reddish-brown, very stiff, moist, sandy and gravelly, calcareous	
6.0'	6.0'		SHALE --	
6.0'	6.0'		weathered, gray and tan, non-calcareous	
7.0'	7.0'		in shale	

RECORD DRA

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

TO ACCOMPANY FINAL F

Hole No. 36A-60
 North District
 SHEET 1 OF 2 SHEETS
 TYPE OF BIT 42" auger
 ELEVATION BOREHOLE (TBM) (ft) 538.52
 HOLE'S DESIGNATION OF DRILL
 OF OVER 0 DISTURBED 0 UNDISTURBED 0
 NUMBER OF CORE BOXES 0
 NUMBER OF CORES 0
 NUMBER OF SAMPLES 0
 STARTED 12 May 75 COMPLETED 13 May 75
 TOP OF HOLE 538.52'
 RECOVERY FOR BORING 0
 REMARKS (Drilling time, water level, depth of weathering, etc., if significant)

Hole No. 36A-60
 DIVISION Southwestern
 PROJECT Aquilla
 LOCATION (Continuation of Station) 36A-60
 DRILLING AGENCY Corps of Engineers
 HOLE NO. (as shown on casing label) and its number 36A-60
 NAME OF DRILLER Martin and Martin
 DIRECTION OF HOLE VERTICAL
 DES. FROM VERT. 0
 THICKNESS OF OVERBURDEN 5.5'
 DEPTH DRILLED INTO ROCK 36.5'
 TOTAL DEPTH OF HOLE 42.0'
 ELEVATION 538.52'
 CLARIFICATION OF MATERIALS (Continued)
 0.0' to 5.5' CLAY - -
 low plasticity, brown, very stiff, moist, with small lime nodules and pockets of soft calciche-like material which become more numerous downward
 5.5' to 13.1' SHALE - -
 tan, calcareous, weathered, interbedded with thin beds of sand
 13.1' to 14.0' LIMESTONE - -
 light gray, sandy, well cemented, difficult to auger
 14.0' to 15.2' SHALE - -
 tan and gray, weathered, with some sandy, non-calcareous
 15.2' to 16.5' SANDSTONE - -
 brown, poorly cemented, with numerous thin beds of shale
 16.5' to 25.9' SHALE - -
 16.5' to 24.9' tan and gray, weathered, with some tight fractures from 20.0' to 20.7'
 24.9' to 25.9' dark gray, unweathered
 25.9' to 32.1' SANDSTONE - -
 25.9' to 32.1' tan, weathered, poorly cemented, interbedded with shale
 32.1' to 35.0' gray, unweathered
 35.0' to 37.0' SHALE - -
 dark gray
 37.0' to 42.0' SANDSTONE - -
 gray, poorly cemented
 T. D. @ 42.0' in sandstone

Drilling
 0.0' to 54.5' 42" auger refusal at 54.5'
 54.5' 42" dry barrel refusal at 54.5'
 0.0' to 36.0' casing

Water level
 Hole was making water from 34.0' to 35.5'.
 24 hour check (before casing pulled) - dry.

Note
 Hole was logged by cuttings, drill action, and visual inspection.
 0.0' to 35.5' calcareous
 35.5' to 54.5' non-calcareous
 Primary is unweathered

Drilling
 0.0' to 42.0' 42" auger
 0.0' to 8.0' casing

Water level
 Hole is making water at 30.0'. 18 hour check - 23.3'

Note
 Hole was logged by cuttings and visual inspection.
 0.0' to 14.0' calcareous
 14.0' to 42.0' non-calcareous
 5.5' to 24.9' weathered
 24.9' to 25.9' unweathered
 25.9' to 32.1' weathered
 32.1' to 42.0' unweathered

RECORD DRAWING-WORK AS BUILT

REV. NO. ACTION DATE DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
 CORPS OF ENGINEERS
 FORT WORTH, TEXAS

DESIGNED BY: AQUILLA LAKE
 AQUILLA CREEK, TEXAS

DRAWN BY: EMBANKMENT AND SPILLWAY

CHECKED BY: LOGS OF BORINGS
 6A3F-58, 59, 36A-60 AND 61

SUBMITTED BY: INV. NO. DACW63-80-B-0086 DATED: AUG. 1980

ENGINEER: CONTR. NO. DACW63-81-C-0035 SEQUENCE NO. 130
 DRAWING NUMBER 8-25 OF SHEET NO.

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 58

CONTRACT NO. DACW63-81-C-0035

Drilling Log Form for the first log. It includes fields for Project (Aquila), Location (Southwestern), and various technical details like hole depth (17.5'), core recovery (100%), and a detailed stratigraphic column with descriptions of soil layers from 0.0' to 16.5'.

Drilling Log Form for the second log. It includes fields for Project (Aquila), Location (Southwestern), and various technical details like hole depth (10.0'), core recovery (100%), and a detailed stratigraphic column with descriptions of soil layers from 0.0' to 10.0'.

Drilling Log Form for the third log. It includes fields for Project (Aquila), Location (Southwestern), and various technical details like hole depth (12.0'), core recovery (100%), and a detailed stratigraphic column with descriptions of soil layers from 0.0' to 12.0'.

RECORD DRAWING-W

Record Drawing Form with fields for Design, Draw, Check, and Submit, along with a section for U.S. Army Engineering details.

Hole No. 83F-6

TITLE Geotechnical		INSTALLATION GRS District		SHEET OF 1 SHEETS	
1. PROJECT Aquilla					
2. LOCATION (Coordinates or Station)					
3. DRILLING AGENCY Corps of Engineers					
4. HOLE NO. (As shown on drawing sheet and file number)					
5. NAME OF DRILLER Benson					
6. DIRECTION OF HOLE () VERTICAL () INCLINED					
7. THICKNESS OF OVERBURDEN 12.0'					
8. DEPTH DRILLED INTO ROCK 0.0'					
9. TOTAL DEPTH OF HOLE 12.0'					
10. DATE HOLE STARTED 10 June 75					
11. ELEVATION TOP OF HOLE 509.0					
12. TOTAL CORE RECOVERY FOR BORING					
13. SIGNATURE OF INSPECTOR [Signature]					
14. SIGNATURE OF DRILLER					
15. SIGNATURE OF SUPERVISOR					
16. SIGNATURE OF COMMANDER					
17. SIGNATURE OF CHIEF OF PARTY					
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Hole No. 83F-6		SHEET 1 OF 1 SHEETS	
1. PROJECT Aquilla		2. LOCATION (Coordinates or Station)	
3. DRILLING AGENCY Corps of Engineers		4. HOLE NO. (As shown on drawing sheet and file number)	
5. NAME OF DRILLER Benson		6. DIRECTION OF HOLE () VERTICAL () INCLINED	
7. THICKNESS OF OVERBURDEN 12.0'		8. DEPTH DRILLED INTO ROCK 0.0'	
9. TOTAL DEPTH OF HOLE 12.0'		10. DATE HOLE STARTED 10 June 75	
11. ELEVATION TOP OF HOLE 509.0		12. TOTAL CORE RECOVERY FOR BORING	
13. SIGNATURE OF INSPECTOR [Signature]		14. SIGNATURE OF DRILLER	
15. SIGNATURE OF SUPERVISOR		16. SIGNATURE OF COMMANDER	
17. SIGNATURE OF CHIEF OF PARTY		18. SIGNATURE OF CHIEF OF PARTY	
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RECORD DRAWING-WORK AS BUILT

SYM. NO.		ACTION		DATE		DESCRIPTION OF ACTION	
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS							
DESIGNED BY:		AQUILLA LAKE AQUILLA CREEK, TEXAS					
DRAWN BY:		EMBANKMENT AND SPILLWAY					
CHECKED BY:		LOGS OF BORINGS 36A-62, 8A3F-63, 64 & 65					
SUBMITTED BY:		INV. NO. DACW63-80-5-0085		DATED: AUG 1980		SEQUENCE NO.	
ENGINEER:		CONTR. NO. DACW63-80-5-0085		DRAWING NUMBER		SHEET NO. 131	
				B-26 OF			

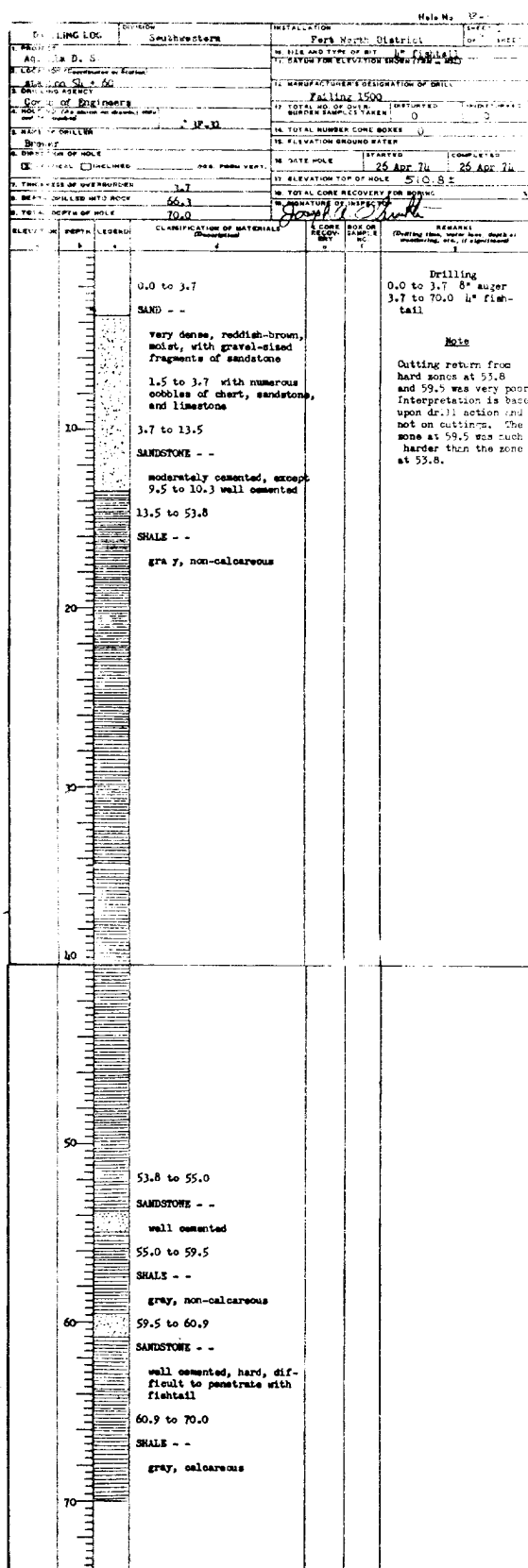
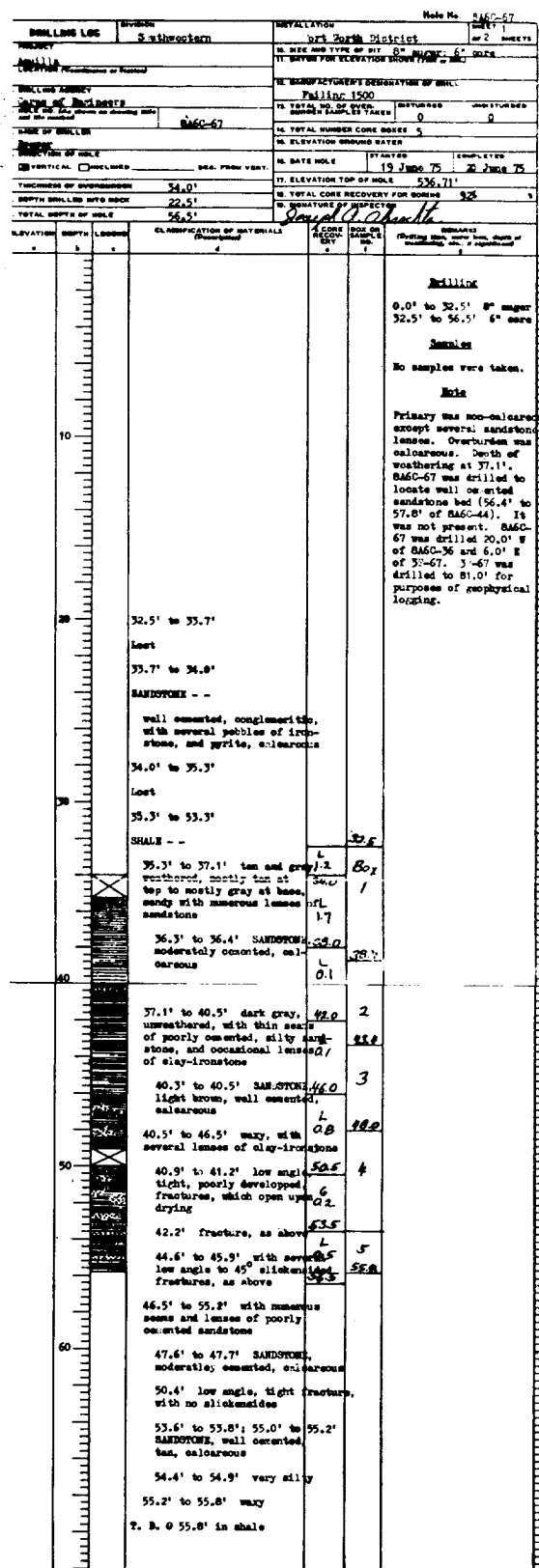
TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 57

Drilling Log		Division	Section		Date	Sheet
FACILITY		Southwestern		Port North District		of 2 sheets
Fig. 113				Hole No. P-60-66		
1. LOCATION (Name or Location)				HOLE AND TYPE OF BIT		Depth 5' core
2. LOGGING AGENT Gordon O. Androcco				11. NUMBER OF TESTS REQUIRED BY HALL		
3. NAME OF DRILLER Baker				12. TOTAL NO. OF DAYS BUREAU SAMPLE TAKEN		RETURNED UNDISTURBED
4. DIRECTION OF HOLE () Vertical () Inclined		DES. FROM VERT.		13. ELEVATION GROUND WATER		
5. DEPTH OF OVERBURDEN		34.0'		14. DATE MOLE		STARTED 16 June 75
6. DEPTH DRILLED INTO ROCK		25.0'		15. ELEVATION TOP OF MOLE		536.9
7. TOTAL DEPTH OF HOLE		59.0'		16. TOTAL CORE RECOVERY FOR BORING		8%
				17. SIGNATURE OF LOGGING AGENT		Gordon O. Androcco
ELEVATION	DEPTH	LEGEND	CLARIFICATION OF MATERIALS (Three part)	A SCORE EST.	BOX OR NO.	REMARKS (Paving, etc., depth of excavation, etc.)
			0.0' to 25.0'		B	Drilline
			Clay --		C	LAK SANDS
			0.0' to 0.5' low plasticity, dark brown, hard, slightly moist, slightly sandy and gravelly		D	A. 0.0' to 0.5' B. 0.5' to 4.0' C. 4.0' to 6.0' D. 6.0' to 8.5' E. 8.5' to 13.5' F. 13.5' to 18.0' G. 18.0' to 22.0' H. 22.0' to 25.0' I. 25.0' to 26.0' J. 26.0' to 31.0' K. 31.0' to 34.0'
			0.5' to 4.0' becomes very stiff; moist, with small lime nodules and occasional pockets of soft, calcio-lime material		E	
			4.0' to 6.0' becomes brown, with numerous nodules		F	Corton sands
			6.0' to 8.5' low plasticity, brown with light brown streaks, very stiff; moist, sandy		G	1. 43.0' to 43.9' 2. 57.7' to 58.6'
			8.5' to 22.0' becomes very sandy, crumbly, with occasional lime nodules in lower 4'		H	*Water level
			22.0' to 25.0' low plasticity, tan with some gray, very stiff, moist, sandy		I	Hole was not bailed; 24 hour seep - 28.9'
			25.0' to 26.0'		J	Silt
			SAND --		K	0.0' to 34.0' calcareous 34.0' to 58.6' non-calcareous, except well cemented sandstone beds
			tan with some gray, medium dense, moist, fine, silty, and slightly clayey		L	Primary is unweathered well cemented sandstone of 56.4' to 57.8'; B&C-44, was not encountered in this boring. SP-48 was drilled 7.5' for geophysical logging; it was drilled to 81.0'
			26.0' to 34.0'		M	3F-66
			GRATE --		N	
			26.0' to 31.0' tan, medium dense, well graded, to 34.0', saturated		O	
			31.0' to 34.0' with numerous cobble to 4"		P	
			34.0' to 58.6'		Q	
			SHALE --		R	
			34.0' to 41.2' unweathered, gray, sandy, with occasional beds of sandstone; much coarse limb in this zone due to fall-in from gravel above		S	
			37.5' to 37.7' SANDSTONE, light gray and gray, fairly calcareous, well cemented		T	
			37.7' to 37.9' clay-sandstone, light brown, hard		U	
			38.0' to 40.0' two intersecting, tight, low angle joints		V	
			41.0' to 41.2' SANDSTONE, light gray, well cemented, calcareous		W	
			41.2' to 46.8' waxy, dark gray sandstone, brown		X	
			42.6' to 42.8' clay-sandstone, brown		Y	
			43.9' to 44.8' with tight, low angle, parallel joints, 0.1' apart, which tend to open upon drying. Surfaces have slickensides		Z	
			45.6' to 45.9' 45° tight joint		AA	
			46.8' to 54.6' with numerous pockets, lenses, and thin beds of poorly cemented light gray, non-calcareous sandstone, less than 0.2' thick		AB	
			47.7' to 47.8'; 48.0' to 48.2' SANDSTONE, moderately cemented, light gray, calcareous		AC	
			54.6' to 58.6' waxy		AD	

Hole No. 6

DRILLING LOG		SECTION	LOCALITY	Hole No. 6
1. PROJECT		2. STRATIGRAPHY		3. NORTH DISTRICT
4. SITE		5. SITE AND TYPE OF HOLE		6. HOLE NO. 6
7. DRILLING METHOD		8. FACTORY OR TYPE OF DRILL		9. DRILLING LOG
10. CORRECTION OF RECORDS		11. DATE OF LOG		12. DATE OF LOG
13. NAME OF DRILLER		14. NAME OF DRILLER		15. DATE OF LOG
16. DATE OF LOG		17. DATE OF LOG		18. DATE OF LOG
19. DATE OF LOG		20. DATE OF LOG		21. DATE OF LOG
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709. DATE OF LOG		710. DATE OF LOG		711



RECORD DRAWING-W

SYN	NO	NO	ACTION	DATE
U.S. ARMY E				
DESIGNED BY:				
DRAWN BY:				
CHECKED BY:				
SUBMITTED BY:				
ENGINEER:				

TO ACCOMPANY FINAL FOUNDATION

Hole No. 32-1	
LOCATION Fort Worth District	SHEET OF 1
DATE AND TYPE OF BT 17 (Final)	
SYMBOL FOR ELEVATION CONTOUR - 500	
MANUFACTURE'S GENERATION OF DRILL Falling 1500	
QUAL. NO. OF DATA NUMBER SAMPLE TAKEN	IDENTIFICATION NO.
TOTAL NUMBER CORE BOXES 0	0
ELEVATION ABOVE WATER	
DATE MOLE STARTED 25 Apr 74	COMPLETED 25 Apr 74
ELEVATION TOP OF MOLE 510.8 ±	
TOTAL CORE RECOVERY FOR BORING	
SIGNATURE OF INSPECTOR	
1. CORE SECTION NO.	2. BOX OR TAPING NO.
3. REMARKS (Cutting time, water flow, depth of weathering, etc., if significant)	

Drilling
0.0 to 3.7 8" auger
3.7 to 70.0 4" fish-
tail

Note
Cutting return from
hard zones at 53.8
and 59.5 was very poor.
Interpretation is based
upon drill action and
not on cuttings. The
zone at 59.5 was much
harder than the zone
at 53.8.

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-66, 67 AND 3F-31		
SUBMITTED BY:	INV. NO. DACW63-80-8-0086	DATED: AUG. 1960	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-81-6-0035	132	
	DRAWING NUMBER	SHEET NO.	
	B-27 of		

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 68

DRILLING LOG		DIVISION	DATE	SHEET
PROJECT		SWD	11/10/79	2
LOCATION		Agulla Lake	DATE FOR ELEVATION	
DRILLING LOG		USCC	DATE FOR ELEVATION	
HOLE NO.		84AC-250	DATE FOR ELEVATION	
NAME OF DRILLER		Robert A. McLaughlin	DATE FOR ELEVATION	
DIRECTION OF HOLE		VERTICAL	DATE FOR ELEVATION	
THICKNESS OF OVERBURDEN		3.1	DATE FOR ELEVATION	
DEPTH DRILLED INTO ROCK		29.4	DATE FOR ELEVATION	
TOTAL DEPTH OF HOLE		41.4	DATE FOR ELEVATION	
CLASSIFICATION OF MATERIALS		CLAY		
ELEVATION		0.0 to 7.5		
DEPTH		0.0 to 3.1 - high plasticity, stiff, moist, black to brown, calc, sandy and gravelly.		
LEGEND		3.1 to 7.5 - med. plast. stiff, moist, yellowish brown with some red after 6' calc, sl. sandy, limy.		
CLAY		7.5 to 10.9		
SHALE		10.9 to 11.4		
ARISTARCHUS L. STONE		11.4 to 21.0		
SHALE and L. STONE		21.0 to 27.3		
SHALE		27.3 to 36.2		
SHALE		36.2 to 40.6		
SHALE		40.6 to 41.4		
SHALE		41.4 to 42.0		
SHALE		42.0 to 43.0		
SHALE		43.0 to 44.0		
SHALE		44.0 to 45.0		
SHALE		45.0 to 46.0		
SHALE		46.0 to 47.0		
SHALE		47.0 to 48.0		
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SHALE		91.0 to 92.0		
SHALE		92.0 to 93.0		
SHALE		93.0 to 94.0		
SHALE		94.0 to 95.0		
SHALE		95.0 to 96.0		
SHALE		96.0 to 97.0		
SHALE		97.0 to 98.0		
SHALE		98.0 to 99.0		
SHALE		99.0 to 100.0		

DRILLING LOG		DIVISION	DATE	SHEET
PROJECT		SWD	11/10/79	3
LOCATION		Agulla Lake	DATE FOR ELEVATION	
DRILLING LOG		USCC	DATE FOR ELEVATION	
HOLE NO.		84AC-251	DATE FOR ELEVATION	
NAME OF DRILLER		Robert A. McLaughlin	DATE FOR ELEVATION	
DIRECTION OF HOLE		VERTICAL	DATE FOR ELEVATION	
THICKNESS OF OVERBURDEN		3.3	DATE FOR ELEVATION	
DEPTH DRILLED INTO ROCK		32.3	DATE FOR ELEVATION	
TOTAL DEPTH OF HOLE		43.2	DATE FOR ELEVATION	
CLASSIFICATION OF MATERIALS		CLAY		
ELEVATION		0.0 to 8.9		
DEPTH		0.0 to 0.2 - high plasticity, stiff, moist, black, calc, sandy and gravelly.		
LEGEND		0.2 to 4.9 - high/red plasticity, stiff, moist, calc, yellowish brown, limy, sl. sandy, gravelly at 2.5' (0.2' thick).		
CLAY		4.9 to 5.3		
SHALE		5.3 to 14.3 - Eagle Ford Fm.		
SHALE		14.3 to 14.8		
SHALE		14.8 to 15.7		
SHALE		15.7 to 16.3		
SHALE		16.3 to 17.0		
SHALE		17.0 to 18.3		
SHALE		18.3 to 19.3		
SHALE		19.3 to 21.5		
SHALE		21.5 to 26.1		
SHALE		26.1 to 28.1		
SHALE		28.1 to 29.1		
SHALE		29.1 to 30.1		
SHALE		30.1 to 31.1		
SHALE		31.1 to 32.1		
SHALE		32.1 to 33.1		
SHALE		33.1 to 34.1		
SHALE		34.1 to 35.1		
SHALE		35.1 to 36.1		
SHALE		36.1 to 37.1		
SHALE		37.1 to 38.1		
SHALE		38.1 to 39.1		
SHALE		39.1 to 40.1		
SHALE		40.1 to 41.1		
SHALE		41.1 to 42.1		
SHALE		42.1 to 43.2		

File No. SAC - 250

DRILLING LOG 1. PROJECT: <u>Agd He Lake</u> 2. LOCATION: <u>Agd He Lake</u> 3. DRILLING SITE: <u>Agd He Lake</u> 4. DRILL NO. (Tag and size number): <u>46C-251</u> 5. NAME OF DRILL: <u>46C-251</u> 6. DIRECTION OF HOLE: <input type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED <u>SEE FROM KEY</u> 7. THICKNESS OF OVERBURDEN: 8. DEPTH DRILLED INTO ROCK: 9. TOTAL DEPTH OF HOLE: 10. ELEVATION OF HOLE: 11. DATE AND TIME OF DRILLING: 12. SIGNATURE OF INSPECTOR: <u>W. J. M. J. M.</u>		13. SIZE AND TYPE OF BIT: 14. NUMBER OF ELEVATION SHOWS (SEE 11): 15. MANUFACTURER'S DESCRIPTION OF DRILL: 16. TOTAL NUMBER CORE BOXES: 17. ELEVATION GROUP WATER: 18. DATE HOLE STARTED: <u>1964</u> 19. DATE HOLE COMPLETED: <u>1964</u> 20. TOTAL CORE RECOVERY FOR BORING: <u>100%</u> 21. SIGNATURE OF INSPECTOR: <u>W. J. M. J. M.</u>	
ELEVATION DEPTH 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 			

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE
MAR 71

PROPERTY

MO. NO. 244-267

U.S. ARMY

DESIGNED BY:

DRAWN BY:

CHECKED BY:

DNG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.
 MAR 71 (TRANSLUCENT)

ENG FORM 1036 PREVIOUS EDITIONS ARE OBSOLETE.
MAR 71 (TRANSLUCENT)

Drilling Log Form 10A-2

PROJECT: Aquilla Dam

LOCATION: (Continuation of Record)

DRILLING AGENCY: USCR

DATE OF LOG: 10A-2

NAME OF DRILLER: Brown

DIRECTION OF HOLE: () VERTICAL () INCLINED DES. FROM VERT.

THICKNESS OF OVERBURDEN: --

DEPTH DRILLED INTO ROCK: --

TOTAL DEPTH OF HOLE: 5.2

DATE HOLE STARTED: 20 March 78

DATE HOLE COMPLETED: 28 March 78

TOTAL CORE RECOVERY FOR BORING: --

SIGNATURE OF INSPECTOR: Robert A. McVey Jr.

CLASSIFICATION OF MATERIALS:

0.0 - 5.2

CLAY

0.0 - 2.8 -- high plasticity, very stiff, slightly moist, black, non calc.

2.8 - 4.3 -- low plast., very stiff, slightly moist, grayish brown, slightly calc, sandy and silty.

4.3 - 5.2 -- low plast., very stiff, slightly moist, non calc, sandy and silty.

1. --- Dry hole.

2. Jars:

A. 0.0 - 2.8

B. 2.8 - 4.3

C. 4.3 - 5.2

Drilling Log Form 10A-3

PROJECT: Aquilla Dam

LOCATION: (Continuation of Record)

DRILLING AGENCY: USCR

DATE OF LOG: 10A-3

NAME OF DRILLER: Brown

DIRECTION OF HOLE: () VERTICAL () INCLINED DES. FROM VERT.

THICKNESS OF OVERBURDEN: --

DEPTH DRILLED INTO ROCK: --

TOTAL DEPTH OF HOLE: 8.3

DATE HOLE STARTED: 28 March 78

DATE HOLE COMPLETED: 28 March 78

TOTAL CORE RECOVERY FOR BORING: --

SIGNATURE OF INSPECTOR: Robert A. McVey Jr.

CLASSIFICATION OF MATERIALS:

0.0 - 6.0

CLAY

0.0 - 1.5 -- mod plasticity, stiff, moist, black non calc, very sandy and silty.

1.5 - 3.1 -- high plast., very stiff, moist, red, non calc.

3.1 - 6.0 -- high to med plast., very stiff, slightly moist, strong brown w/ some brown mixed in, non calc, silty.

6.0 - 8.3

SAND -- mostly fine and round, moist, yellow to some colorless lenses, non calc, silty, slightly gravelly.

Drilling Log Form 10A-4

PROJECT: Aquilla Dam

LOCATION: (Continuation of Record)

DRILLING AGENCY: USCR

DATE OF LOG: 10A-4

NAME OF DRILLER: Brown

DIRECTION OF HOLE: () VERTICAL () INCLINED DES. FROM VERT.

THICKNESS OF OVERBURDEN: --

DEPTH DRILLED INTO ROCK: --

TOTAL DEPTH OF HOLE: 9.0

DATE HOLE STARTED: 28 March 78

DATE HOLE COMPLETED: 28 March 78

TOTAL CORE RECOVERY FOR BORING: --

SIGNATURE OF INSPECTOR: Robert A. McVey Jr.

CLASSIFICATION OF MATERIALS:

0.0 - 0.9

SAND -- fine and round, dry, brown, non calc.

0.9 - 6.1

CLAY

0.9 - 5.3 -- high plasticity, very stiff, slightly moist, calc, very slightly strong brown oo w/ above after

5.3 - 6.1 -- med plast., very stiff, gray and strong non-calc, sandy

6.1 - 9.0

SAND -- fine and round, strong brown w/ gray, non calc, silty

RECORD DRAWING

NOTE: SEE

AM10002 28

U.S. ARMY

DESIGNED BY:

DRAWN BY:

CHECKED BY:

SUBMITTED BY:

TO ACCOMPANY FINAL FOUNDAT

Plate No. 10A-3

PROJECT: Ft Worth

DATE: 28 March 78

ENGINEER: Robert A. McVey Jr.

1. ***
Dry hole.

2. Jars:
A. 0.0 - 1.5
B. 1.5 - 3.1
C. 3.1 - 6.0
D. 6.0 - 9.0

Plate No. 10A-4

PROJECT: Aquilla Lake

DATE: 28 March 78

ENGINEER: Robert A. McVey Jr.

1. ***
Dry hole.

2. Jars:
A. 0.0 - 0.9
B. 0.9 - 2.5
C. 2.5 - 5.3
D. 5.3 - 6.1
E. 6.1 - 9.0

0.0 - 0.9
SAND - fine and round, loose, dry, brown, non calc, silty.

0.9 - 6.1
CLAY

0.9 - 5.3 - - high plasticity, very stiff to hard, slightly moist, red, non calc, very slightly sandy. Strong brown color mixed w/ above after 2.5.

5.3 - 6.1 - - med to low plast, very stiff, moist, gray and strong brown, non calc, sandy.

6.1 - 9.0
SAND - fine and round, moist, strong brown w/ some light gray, non calc, silty.

RECORD DRAWING-WORK AS BUILT

NOTE: SEE PLATE 1-2 FOR BORING LOCATIONS.

AM*0002 28NOV80 NEW SHEET

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

INW. NO. _____

DATED: _____

DRAWING NUMBER _____

SHEET NO. 133A

SEQUENCE NO. _____

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 60